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The effect of special class placement on the self concept of ability was studied in 62 educable mentally handicapped students (mean age 11.6). Six observations were made in time design series using scales of self concept of ability and academic aspirations and expectations, tests of significant and academic significant others, and a class evaluation questionnaire. On self concept of ability, results manifested a quadratic trend in scores; little variation in trends of means between high and low socioeconomic status or male and female groups; and pronounced variation between older and younger, and rural and urban groups, and among groups constructed on the basis of high, medium, and low initial scores on the scale. No downward linear trend occurred in academic aspirations or expectations and no changes resulted in affective orientation to the special class, in the proportion of subjects choosing the special class, or in significant others named (except for teachers). Also noted were a high degree of correspondence between significant and academic significant others named by the subjects and by members of a regular class; an increase in the proportion of subjects naming teachers as significant others ($p<.05$); and, except for teachers, parents, and local adults who increased in proportion of mention ($p<.05$), overall high agreement in academic significant others named. (JD)

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THE EFFECT OF SPECIAL CLASS PLACEMENT ON THE SELF-CONCEPT-OF-ABILITY OF THE EDUCABLE MENTALLY RETARDED CHILD

Grant No. 32-32-0410-6001

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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TABLE OF CONTENTS

Page

ACKNOWLEDGMENTS ii

LIST OF TABLES vi

LIST OF ILLUSTRATIONS ix

LIST OF APPENDICES x

Chapter

I. THE PROBLEM 1

Background 1
Theoretical Background 3
  Symbolic Interaction Theory 4
  Social System Perspective of Deviance 8
  Cooling the Mark Out 11
Problem Statement 13

II. OBJECTIVES 15

General Purpose 15
Hypotheses 15
Questions 17
Discussion of Hypotheses 18
Discussion of Questions 23

III. RELATED RESEARCH 25

Social Psychology and Mental Deficiency 25
Self Concept 30
Self Concept of the Mentally Retarded 34
Perception of the Mentally Retarded. 44
The Interview. 51

IV. PROCEDURES 58

Research Strategy 58
Instrumentation 63
Sample and Sampling Procedures 67
Methods of Analysis 73

V. ANALYSIS OF DATA 75

Hypotheses 75
Questions 96
Discussion of Findings 124
Limitations of the Study 127

Chapter Page

VI. SUMMARY, CONCLUSIONS, AND IMPLICATIONS 124

Summary 124
Conclusions. 128
Implications 129
  Implications for Research 130
  Implications for Theory 131
  Implications for Education 132

BIBLIOGRAPHY 1 5

APPENDICES 146

LIST OF TABLES

Table | | Page
4.1 Sample 69
4.2 Reasons why certain subjects were not included in the final analysis 70
4.3 Sample by district, age and sex 71
5.1 Means, standard deviations, skewness, and kurtosis of the longitudinal group's GSCA scores 75
5.2 Analysis of variance summary table for the longitudinal group's GSCA scores on tests two through six. 78
5.3 Linear and quadratic tests for trend on the longitudinal group's GSCA scores for tests two through six 78
5.4 Ranking matrix of EMR mean academic aspiration level over time (1=highest to 5=lowest) 80
5.5 Proportion of EMR students selecting each plan level when asked how far in school they would really like to go 82
5.6 Ranking matrix of EMR mean academic expectation level over time (1=highest to 5=lowest) 83
5.7 Proportion of EMR students selecting each plan level when asked how far in school they think they are really going to go 84
5.8 Number of EMR students giving a positive reply to the question: "How do you like this class?". 85
5.9 Categorized responses to four questions dealing with labels applied to the special class for EMR students 87
5.10 Number of EMR students naming this class in reply to the question: "Would you rather be in this class or the one you were in last year?". . 89

Table Page

5.11 Percent of students mentioning various reasons for choosing the special class rather than their previous class 89

5.12 Summary table of X^2 comparisons of observed mentions of significant others by 13-15 year old EMR students and expected mentions based on a regular class population (N=24) 91

5.13 Summary table of X^2 comparisons of observed mentions of academic significant others by 13-15 year old EMR students and expected mentions based on a regular class population (N=24) 93

5.14 Ranking matrix of EMR students mentioning at least one teacher as an academic significant other (1=least mentions to 4=most mentions) . . 94

5.15 N, GSCA means, standard deviations, and standard error of the means of young (7-11) and older (12-15) first year EMR students. 97

5.16 N, GSCA means, standard deviations, and standard error of the means of male and female first year EMR students. 99

5.17 N, GSCA means, standard deviations, and standard error of the means of high SES and low SES first year EMR students. 101

5.18 N, GSCA means, standard deviations, and standard error of the means of urban and rural first year EMR students 103

5.19 N, GSCA mean scores, standard deviations, and standard error of the means of first year EMR students divided according to high, medium, and low initial GSCA scores. 105

5.20 Ranking matrix of the proportion of EMR students naming at least one person in a category as a significant other from June prior to their initial special class placement through their first year in the special class. 106

5.21 Q values of EMR students' responses to the question: "Who are the people you feel are important in your life?" 108

Table Page

5.22 Ranking matrix of academic significant others named by EMR students from a time prior to special class placement through their first year in the special class 109

5.23 Q values of EMR students' responses to the question: "Who are the people you feel are concerned about how well you do in school?". . . 111

5.24 Proportion of first year EMR students naming at least one person in each significantly different category 112

E.1 Derogatory labels EMR students report others have attached to their special class 166

LIST OF ILLUSTRATIONS

Figure		Page
5.1	EMR mean GSCA scores	77
5.2	Mean academic aspiration and academic expectation scores	82
5.3	Mean GSCA scores: young (7-11) vs. older (12-15)	95
5.4	Mean GSCA scores: males vs. females.	98
5.5	Mean GSCA scores: high SES vs. low SES	100
5.6	Mean GSCA scores: rural vs. urban.	102
5.7	Mean GSCA scores: high vs. medium vs. low. . . .	104

LIST OF APPENDICES

Appendix | Page
A. Instruments. 146
B. Michigan Placement Recommendations for EMR 157
C. Cooperating School Districts 159
D. Relevant Data from the Brookover Studies 161
E. Case Material. 164

CHAPTER I

THE PROBLEM

Background

The special class movement in this country has had a brief history characterized, recently, by dynamic growth. Special education classes for the mentally retarded first appeared in the public schools at the beginning of the twentieth century.[1] In 1922 there were 23,000 mentally retarded students in such classes, and by 1948 enrollment had increased to 87,000.[2] By 1958 there were 218,000 mentally retarded students going to school in special classes.[3] The most recently published statistics indicate a fourfold increase in enrollment occurred between 1958 and 1963.[4] Thus, assuming the accelerating trend has continued, today a good deal more than 870,000 students should be found in special classes for the mentally retarded.

---

[1] Leo Kanner, A History of the Care and Study of the Mentally Retarded (Springfield, Illinois: Charles C. Thomas, 1964), pp. 114-115.

[2] Elise H. Martens and Catherine Harris, "Statistics of Special Schools and Classes for Exceptional Children," Biennial Survey of Education in the United States, 1946-48 (Washington: Federal Security Agency, Office of Education, 1948), p. 10.

[3] Rose M. Walker and William V. Grant, "Statistical Summary of Education," 1957-58, Biennial Survey of Education in the United States, 1956-58 (Washington: U.S. Dept. of H.E.W., Office of Education, 1962), p. 24.

[4] Romaine Mackie, "Spotlighting Advances in Special Education," Exceptional Children, XXXII (October, 1965), pp. 77-81.

Underlying the expanding special class movement has been the belief that special class placement would result in better academic performance, personal development, and social adjustment for the mentally retarded than would have taken place if they had remained in regular classrooms. The nearly fortyfold increase in enrollment between 1922 and 1963 indicates general acceptance of this belief. Research, however, has provided no unqualified justification for such faith. In fact, a great deal of research indicates that special class placement for the EMR hinders academic achievement and may be of questionable value in improving social adjustment.[1] For example, a recent well-designed research project devoted to testing the "efficacy" of special class placement[2] found no significant difference in the rate of intellectual development (change in measured I.Q. scores) between mentally retarded children attending special classes and those attending regular classes.[3] Furthermore, the researchers were unable to accept without qualification the hypothesis of significantly greater academic achievement by children in special classes.[1] Furthermore, they did not find that EMR students assigned to special classes clearly demonstrated better personal adjustment than those who remained in regular classes.[2]

---

[1] See Howard L. Sparks and Leonard S. Blackman, "What is Special about Special Education Revisited: the Mentally Retarded," Exceptional Children, XXX (January, 1965), 242-247; Orville Johnson, "Special Education for the Mentally Retarded-A Paradox," Exceptional Children, XXIX (October, 1962), 62-69; and Viola M. Cassidy, and Jeanette E. Stanton, An Investigation of Factors Involved in the Educational Placement of Mentally Retarded Children (Columbus: Ohio University Press, 1959).

[2] Herbert Goldstein, James W. Moss, and Laura J. Jordan, "The Efficacy of Special Class Training on the Development of Mentally Retarded Children" U.S. Office of Education, Cooperative Research Project No. 619 (Urbana, Illinois: The University of Illinois, 1965).

[3] Ibid., p. 39.

Because such findings greatly concern those committed to special education, a great deal of time has been spent examining research deficiencies and explaining the observed outcomes. For instance, Johnson described the situation as a paradox resulting from differences in orientation toward academic achievement along with a misunderstanding of the mental health movement by special class teachers.[3]

Theoretical Background

The general problem considered in this research report, the formulation of specific questions and hypotheses, and the discussion of results are based on and greatly influenced by two closely related theoretical positions. They are: (1) symbolic interaction theory as developed from the writings of George Herbert Mead[4] and applied to educational research by Wilbur Brookover and his associates,[1] and (2) the "Social System" perspective of deviance.[2] Erving Goffman's "On Cooling the Mark Out"[3] provided a unique model for research with the EMR.

---

[1] *Ibid*., pp. 71-73.

[2] *Ibid*., pp. 91-93, 104, and 222.

[3] Johnson, *loc*. *cit*., pp. 68-69.

[4] George H. Mead, *Mind, Self, & Society* (Chicago: University of Chicago Press, 1934). See also George Herbert Mead, *Philosophy of the Present* (Chicago: London Open Court Publishimg Company, 1932); and George Herbert Mead, *Movements of Thought in the Nineteenth Century* (Chicago: University of Chicago Press, 1936).

Symbolic Interaction Theory

Symbolic interaction theory is a particular viewpoint within the general field of social psychology.[4] An excellent summary of this position has been prepared by Bernard Meltzer.

---

[1] For an overview of this position see Wilbur B. Brookover and Edsel L. Erickson, "Introduction: Symposium on Self-Concept and its Relationship to Academic Achievement: A Longitudinal Analysis," A paper presented at the American Educational Research Association meeting, Chicago, 1965.

[2] Jane R. Mercer, "Social System Perspective and Clinical Perspective, Frames of Reference for Understanding Career Patterns of Persons Labelled as Mentally Retarded," Social Problems, XIII (Summer, 1965), 18-34. The original theoretical development is found in Howard S. Becker, Outsiders: Studies in the Sociology of Deviance (Glencoe, Ill.: The Free Press, 1963); Howard S. Becker (ed.), The Other Side: Perspectives on Deviance (Glencoe, Ill.: The Free Press, 1964); and John I. Kitsuse, "Society Reaction to Deviant Behavior: Problems of Theory and Method," Social Problems IX (Winter, 1962), 247-257.

[3] Erving Goffman, "On Cooling the Mark Out," Psychiatry, XV (1952), 451-463.

[4] Nelson N. Foote, "Social Psychology," A Dictionary of the Social Sciences, eds. Julius Gould and William L. Kolb (New York: The Free Press, 1964), p. 663 defines social psychology as ". . .the overlapping portions of psychology and sociology which are particularly concerned with describing and explaining how selves are modified through interaction with others and how their reciprocating behavior is directed accordingly." He states the sociologically oriented symbolic interactionist approach to social psychology places stress upon". . .social interaction and communication as the matrix from which human selves arise.."

He writes:

> The human individual is born into a society characterized by symbolic interaction. The use of significant symbols by those around him enables him to pass from the conversation of gestures which involves direct, unmeaningful response to the overt acts of others to the occasional taking of the roles of others. This role taking enables him to share the perspectives of others. Concurrent with roletaking, the self develops, i.e., the capacity to act toward oneself. Action toward oneself comes to take the form of viewing oneself from the standpoint, or perspective, of the generalized other (the composite representative of others, of society, within the individual), which implies defining one's behavior in terms of the expectations of others. In the process of such viewing of oneself, the individual must carry on symbolic interaction with himself, involving an internal conversation between his impulsive aspect (the "I") and the incorporated perspectives of others (the "Me"). The mind, or mental activity, is present in behavior whenever such symbolic interaction goes on - whether the individual is merely "thinking" (in the everyday sense of the word) or is also interacting with another individual. (In both cases the individual must indicate things to himself.) Mental activity necessarily involves meanings, which usually attach to, and define, objects. The meaning of an object or event is simply an image of the pattern of action which defines the object or event. That is, the completion in one's imagination of an act, or the mental picture of the actions and experiences symbolized by an object, defines the act or the object. In the unit of study that Mead calls "the act," all of the foregoing processes are usually entailed. The concluding point to be made in this summary is the same as the point with which I began: Mead's concepts intertwine and mutually imply one another. To drive home this important point I must emphasize that human society (characterized by symbolic interaction) both precedes the rise of individual selves and minds and is maintained by the rise of individual selves and minds. This means, then, that symbolic interaction is both the medium for the development of human beings and the process by which human beings associate as human beings.

Brookover and his associates have applied Mead's interpretation of human conduct to the school learning situation.

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[1] Bernard N. Meltzer, The Social Psychology of George Herbert Mead (Kalamazoo, Michigan: Division of Field Services, Western Michigan University, 1959), pp. 25-26.

From Median theory and two general prepositions Brookover derived four specific hypotheses as the basis of his social psychological conception of school learning.[1] The two propositions are:

> (1) Nearly all human beings learn certain expected types of behavior in every society.
>
> . . . .
>
> (2) The process and organic mechanisms necessary for learning culturally required behavior are not different from the processes and mechanisms necessary for learning the types of behavior taught in the classroom.[2]
>
> The derived hypotheses are:
>
> (1) Persons learn to behave in the ways that each considers appropriate to himself. . . .
> (2) Appropriateness of behavior is defined by each person through the internalization of the expectations of significant others. . . .
> (3) The functional limits of one's ability to learn are determined by his self conception or self image as acquired in social interaction. . . .
> (4) The individual learns what he believes significant others expect him to learn in the classroom and other situations.[3]

This model for learning should not be interpreted to mean that biological differences - for example, those often encountered in mental retardation - play no role in academic performance. Brookover writes:

> . . . We postulate that the child acquires, by taking the role of the other, a perception of his own ability as a learner of various types of skills and subjects which constitute the school curriculum. If the child perceives that he is unable to learn.

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[1] Wilbur B. Brookover, "A Social Psychological Conception of Classroom Learning," School and Society, LXXXVII (1959) pp. 84-87.

[2] Ibid.

[3] Ibid.

> mathematics or some other area of behavior, this self-concept of his ability becomes the functionally limiting factor of his school achievement. "Functional limit" is the term used to emphasize that we are speaking not of genetic organic limits on learning but rather of those perceptions of what is appropriate, desirable, and possible for the individual to learn. We postulate the latter as the limits that actually operate, within broader organic limits, in determining the nature or extent of the particular behavior learned.[1]

By "self-concept-of-ability" Brookover means ". . . the evaluation one makes of oneself in respect to the ability to achieve in academic tasks in general as compared with others."[2] It is a particular self definition based on Mead's conceptualization of self as "an awareness of and articulation of an internalized social process,"[3] and should not be confused with such global "selves" as those of Jersild[4] and Rogers.[5]

---

[1] Wilbur B. Brookover, and David Gottlieb, A Sociology of Education (2nd Edition, New York: American Book Company, 1964), p. 469.

[2] Wilbur B. Brookover et al., Improving Academic Achievement Through Students' Self-Concept Enhancement, Final Report of Cooperative Research Project No. 1636, U.S. Office of Education (East Lansing: Bureau of Educational Research Services, College of Education, Michigan State University, 1965), p. 51.

[3] Lee M. Joiner et al., "Student Definitions of the Educational Expectations of Others and the Development of Educational Plans: A Longitudinal Study of High School Males," a paper presented at meetings of the American Educational Research Association, Chicago, Illinois, (1966), p. 1.

[4] Arthur T. Jersild, In Search of Self (New York: Bureau of Publications, Teachers College, Columbia University, 1952), pp. 9-10.

[5] Carl Rogers, Client Centered Therapy: Its Current Practice, Implications, and Theory (Boston: Houghton Mifflin Co., 1951), pp. 136-137.

When related to EMR students, the Brookover orientation to Median symbolic interaction theory emphasizes three propositions:[1]

(1) For an EMR child to act intentionally to achieve, he must either see a task as appropriate behavior or perceive that significant others want him to achieve in the task.

(2) The EMR's perception of the demands of his reciprocal role relationships will influence his behavior.

(3) The EMR's school performance will generally conform to the perceived expectations of some significant other under perceived conditions of role demand.[2]

"Social System" Perspective of Deviance

Deviance may be studied from a clinical perspective or from a social system perspective. From the clinical perspective, the traditional approach, one views deviance as a quality inherent in a person's being or behavior and, therefore, focuses attention upon the deviant himself. Interest would be centered upon who the deviant is, where he came from, and how he got that way.[3] From a social system perspective, one views deviance as the product of an interaction process between deviants and non-deviants who exist in a complementary relationship. Consequently, one is interested not only in the deviant but also in the non-deviant and the interaction occurring between them. Attention is focused upon questions dealing with the application, consequences, and circumstances of labeling.[1]

---

[1] Edsel L. Erickson _et al._, "A Social-Psychological Study of the Educable Mentally Retarded: An Educational Research Application of Symbolic Interactionism," a paper presented at the national meeting of the Council for Exceptional Children, Portland, Oregon, (1965).

[2] _Ibid_., pp. 4-13.

[3] For examples of this viewpoint see James Bossard, _Social Change and Social Problems_ (New York: Harper & Brothers, 1934), pp. 435-484; Carl Rosenquist, _Social Problems_ (New York: Prentice-Hall, 1940), pp. 372-387; Jessie Bernard, _Social Problems at Midcentury: Roles, Status and Stress in a Context of Abundance_ (New York: Dryden Press, 1957), pp. 216-241.

Howard Becker has been a central figure in the development of the social system position for studying deviance. In discussing this viewpoint's consequences, he writes:

> One consequence is that we become more interested in the process by which deviants are defined by the rest of society. We do not take for granted, as has sometime naively been done, that a given action is deviant simply because it is commonly regarded so. Instead, we look to the process by which the common definition arises. This is, with increasing frequency, referred to as the process of labeling. People attach the label "deviant" to others and thereby make deviants of them.[2]

---

[1] While the "social system" perspective is a recent development (see p. 4, n. 2), earlier writers shared similar concerns. See Lawrence G. Brown, Social Pathology: Personal and Social Disorganization (New York: F. S. Crofts & Co., 1942), pp. 435-484; Edwin M. Lermert, Social Pathology: A Systematic Approach to the Theory of Sociopathic Behavior (New York: McGraw-Hill, 1951); and Harry C. Bredemeier and Jackson Toby, Social Problems in America; Costs and Casualties in an Acquisitive Society (New York: Wiley, 1960).

[2] Becker, The Other Side: Perspectives on Deviance, pp. 2-3.

Futhermore:

> . . .if we assume, as has often been done, that deviance is somehow a quality of the person committing the deviant act, we are likely to suppose without looking any further into the matter that the person who commits the deviant act is somehow compelled to do so and will continue to do so. On the other hand, if we view deviance as something that arises in interaction with others, we realize that changes in interaction may produce signfficant changes in behavior.[1]

Becker discusses three other implications of this viewpoint. They are:

(1) The role of people other than deviants are considered as they are involved in the interaction process.[2]

(2) Research that focuses primarily on the deviant himself is "likely to be exceptionally alive to the effect of the reactions of other people in the behavior of the deviant."[3]

(3) A "lack of sentimentality" characterizes the approach. By this Becker means that "distasteful possibilities" are considered. There is a "willingness to question received opinion."[4]

Even though a sociological perspective has seldom been utilized by those working with the retarded, the social system perspective has received strong support from two writers. Lewis A. Dexter has repeatedly emphasized the importance of considering social factors as influencing the behavior of mentally retarded individuals.[1] Jane Mercer has discussed the position at length and demonstrated its usefulness in research dealing with the career patterns of institutionalized persons labeled mentally retarded.[2]

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[1] Ibid., p. 4.

[2] Ibid.

[3] Ibid., p. 5.

[4] Ibid.

If educational researchers viewed EMR students within this perspective, they would be particularly concerned with others as influences upon the behavior of the EMR and with the effects of being labeled EMR upon subsequent behavior. They would not focus upon correlating etiological categories and behavior, upon classifying behavior, or upon diagnosing personal deficiencies without considering related social behavior.

"Cooling the Mark Out"

Goffman's "Cooling the Mark Out" analyzes adaptation to failure through interaction with others.[3] It is especially relevant to those situations in which a person defines himself as having a certain status while lacking the necessary qualifications for occupying the status.

---

[1] See Lewis A. Dexter,"Politics and Sociology of Stupidity in Our Society," The Other Side: Perspectives on Deviance, ed. Howard S. Becker (Glencoe, Ill: The Free Press, 1964), pp. 37-49; Lewis A. Dexter, "Research on Problems of Mental Subnormality," American Journal of Mental Deficiency, LXIV (1960), pp. 835-838; Lewis A. Dexter, "A Social Theory of Mental Deficiency," American Journal of Mental Deficiency, LXII (1958), pp. 920-928; Lewis A. Dexter, "Towards a Sociology of Mental Deficiency," American Journal of Mental Deficiency, LXI (1956), pp. 10-16; Lewis A. Dexter, "A Note on Selective Inattention in Social Science," Social Problems, VI (1958), pp. 176-182.

[2] Marcer, op. cit., pp. 18-35.

[3] Goffman, op. cit., pp. 451-463.

Goffman made considerable use of the argot of the con game in his analysis. The "mark" is a person "taken" for a sizeable sum of money. He is a failure who has "defined himself in a way which the social facts come to contradict." Facilitating the mark's acceptance of his loss is the "cooler's" job. He helps the mark redefine himself along defensible lines by helping him build a new framework within which to see and judge himself.[1]

When the "cooling out" model is applied to special class placement of EMR students--assuming the labeling and placement process removes the child from one role, regular class student, and places him in a lesser role, special class student--the EMR student would be the "mark" since he has been shown to be deficient in important ways. The special class teacher would be a "cooler" since it is her job to facilitate an acceptable redefinition of self by the EMR student. The special class would be an interaction situation designed to ease redefinition: redefinition in line with socially determined expectations and role demands which emphasize minimal academic achievement, social adjustment, and occupational adequacy.[2]

---

[1] Ibid.

[2] These expectations are in accord with typical educational definitions of the EMR students. See Samual A. Kirk, Educating Exceptional Children (Boston: Houghton Mifflin Co., 1962), p. 105.

Problem Statement

In studying EMR students from the perspectives just discussed, one would not attempt explanations in terms of direct outcomes of physical variation. For example, instead of explaining inadequate school performance by special class EMR students as a direct result of organic defect, intervening variables[1] which mediate between the organic condition and behavioral outcomes are studied.

With this in mind, the research reported herein focuses upon the assessment of change in selected areas as they relate to the following general problem: Is official designation of a child as EMR and subsequent placement in a special class accompanied by social influences (intervening variables) which are generally negative and strong enough to counteract the benefits of the supposedly more ideal educational setting?

Subsumed under this general problem are the more specific research problems. They are:

(1) What happens to the self-concept-of-ability, academic aspirations, and academic expectations of students labeled EMR and placed in a special class?

(2) Who are the significant others and academic others of special class EMR students?

---

[1] Intervening variable is used in the sense of ". . .any intervening construct with a maximum amount of operational validity, or direct empirical reference," as defined by Melvin H. Marx, "Intervening Variable or Hypothetical Construct," The Psychological Review, LVIII (1951), p. 236.

(a) Are there any changes in significant others and academic significant others associated with being labeled EMR and placed in a special class?

(3) What changes in attitude toward the special class are associated with being in the class for approximately one year?

These are important questions. Findings should not only help to explain the outcomes of special placement for EMR students but also contribute toward improving the educational results of such classes. In addition, constructs like self-concept-of-ability, expectations, aspirations, and significant others have been demonstrated to be relevant to academic achievement in cases having no known immediate organic limitation. This relevance has been advanced as empirical vertification of symbolic interaction theory from which the constructs and their related hypotheses were derived. But the constructs have not been studied with subjects characterized by narrower or more sharply defined organic limitation. If their relevance can be demonstrated in such a situation, i.e., in the situation of the EMR child, a contribution will be made toward clarifying symbolic interaction theory as it applies to all people.

CHAPTER II

OBJECTIVES

General Purpose

This study is the initial empirical step in developing a theoretically based explanation for the apparent lack of optimal academic achievement shown by special class EMR students. As a first step it proposes to refine some hypotheses and to explore and make explicit relationships among intervening social variables which may be functioning to inhibit academic achievement by EMR students.

Hypotheses

The following hypotheses are stated as research hypotheses, not as null hypotheses. For clarity they are stated in both literary and operational form.

Because a predicted order of results is important in certain of the hypotheses, numerical subscripts have been utilized to indicate the passage of time; that is, subscripts refer to approximate testing dates according to the following schedule.

Subscript	Testing Date
1	May 1, 1965
2	June 1, 1965
3	September 13, 1965
4	December 6, 1965
5	March 1, 1966
6	June 1, 1966

The testing schedule is designed to cover a period from a time prior to the Ss knowledge of selection for special class placement through his first year in the class. The first two tests were administered prior to the Ss knowledge of selection for special class placement. The September testing occurred within the Ss first ten days in the special class. The last three administrations were given at approximately equal intervals through the Ss first year in the special class. The phrase "over time" as it is used in all hypotheses refers to the testing schedule as it appears above.

Hypothesis I. The General-Self-Concept-Of-Ability (GSCA) of EMR students placed in special classes will be characterized by a quadratic trend over time.

$H_1: GSCA_2 > GSCA_3 > GSCA_4 < GSCA_5 < GSCA_6$

Hypothesis II. The academic aspirations (AA) of EMR students placed in a special class will be characterized by a descending linear trend over time.

$H_2: AA_2 > AA_3 > AA_4 > AA_5 > AA_6$

Hypothesis III. The academic expectations (AE) of EMR students placed in special classes will be characterized by a descending linear trend over time.

H_3: $AE_2 > AE_3 > AE_4 > AE_5 > AE_6$

Hypothesis IV. There will be a change over time in the percentage of positive replies by first year EMR students to the question, "How do you like this class?".

H_4: $\mu_3 \neq \mu_4 \neq \mu_5 \neq \mu_6$

Hypothesis V. There will be a change over time in the percentage of first year EMR students naming the special class in reply to the question, "Would you rather be in this class or the one you were in last year?".

H_5: $\mu_3 \neq \mu_4 \neq \mu_5 \neq \mu_6$

Hypothesis VI. Those named as significant others by EMR students do not differ from those named by a normal population of school children.

H_6: $f_1 = f_2$

Hypothesis VII. Those named as academic significant others by EMR students do not differ from those named by a normal population of school children.

H_7: $f_1 = f_2$

Hypothesis VIII. As they pass through their first year in the special class, an increasing proportion of EMR students will name teachers as academic significant others.

H_8: $P_3 < P_4 < P_5 < P_6$

Questions

In addition to hypotheses, three general questions will be investigated. They are:

I. Are any differences in reaction to special class placement reflected by varying changes in the GSCA pattern if EMR students are compared according to each of the following: age at placement, sex, socio-economic status, and school system?

II. Are there any changes in the identified significant others associated with special class placement?

III. Are there any changes in the identified academic significant others associated with special class placement?

Discussion of Hypotheses

Hypothesis I

The General-Self-Concept-Of-Ability (GSCA) is an individual's view of himself as a student compared to other students. Operationally it is defined as an obtained score on the GSCA Scale (see Appendix A).

The quadratic trend is predicted on the basis of theoretical work discussed previously. In brief, being labeled EMR and placed in a special class is a case of being removed from one role, regular class student, and placed in a lesser role, special class student. Through interaction with others, the EMR student will have learned that special class students are not "good" students (in the every-day use of the term) so that however he saw himself as a student prior to placement, his GSCA will be lower after being placed. Nevertheless, after remaining in the special class for a time and undergoing a "redefinition of self," the student's GSCA should rise. It is thought that parents, teachers, and friends play important roles in the redefinition process.

Findings will also be used to develop a more exact description of the quadratic hypothesis. The quadratic hypothesis is feasible theoretically; however, the model, as presently conceived, provides no necessary reason for thinking any particular ordering will occur. That is, the points which will be used to describe the hypothesis may occur in several ways and still conform to the quadratic shape. For example, while the $2>3>4<5<6$ ordering is likely, a $2>3<4<5<6$ or $2>3>4>5<6$ relationship may occur and would be acceptable for the purposes of this research.

Hypothesis II

The educational level an individual wishes to attain is his academic aspiration (AA) level. Operationally it is defined as an obtained score on the AA Scale (see Appendix A).

The EMR's AA level is included for study because it is an important part of the EMR's redefinition of self which is thought to attend special class placement. Since, by definition, the EMR are not expected to perform at a high level in an academic role (a definition of self they will learn in interaction with others) their academic aspirations, being affected by the new self definition, will be lowered. Over time as the child enters more completely into the EMR role, lower aspirations will be crystallized.

Hypothesis III

The educational level an individual thinks he will actually attain is his academic expectation (AE) level. Operationally it is defined by an obtained score on the AE Scale (see Appendix A).

Academic expectations, although generally lower, are closely related to academic aspirations, and the reason for the ordered hypothesis is much the same as that for academic aspirations. To repeat, through interaction with others the newly placed EMR student will over time take on a definition of self involving minimal academic expectations. The change in self definition will be reflected by answers on the AE Scale.

Hypothesis IV

The student's evaluation of the special class involves his affective orientation toward it. Operationally, evaluation will be defined as answers to the class evaluation questionnaire (see Appendix A). At placement, the EMR student will evaluate the class from the generally negative perspective of his peers. But after placement and the redefinition process, the EMR student will have learned a more positive definition of the class. A change in affective orientation toward the class should be demonstrated by answers to the evaluation question.

Students are also asked "why" they evaluated the class as they did. Answers to this question will be analyzed to determine the reported sources of influence upon evaluation of the special class.

Hypothesis V

The question asked in this hypothesis is designed to reflect the EMR's reaction over time to a definition of himself as a special class student in contrast to a definition of self as a regular class student. A change in the percentage of positive replies should occur since at placement the student will evaluate the class from the generally negative conceptualization of the special class held by his peers but will experience a positive change after placement and the hypothesized redefinition process.

Students are also asked why they choose one class rather than the other. These answers will be analyzed to determine the reported sources of comparison and judgment.

Hypothesis VI

The concept of "significant other" is derived from the work of Harry Stack Sullivan.[1] It refines Mead's "generalized other" in that it indicated a selectivity of those others with whom an actor identifies.[2] Operationally, significant other (SO) is defined as answers to the question, "Who are the people you feel are important in your life?"

Since others are the source of self definitions, they are an important area of study both from a Median viewpoint and from a "social system" perspective. As a first step this study will specify who such others are, will indicate their relative importance in terms of ranked frequency of mention, and will compare those SOs named by EMR special class students with those SOs named by a group of regular class students. The hypothesis of no difference is made on the basis of previous findings.[1]

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[1] Harry Stack Sullivan, Conceptions of Modern Psychiatry: The First William Alanson White Memorial Lectures (Washington, D.C.: The William Alanson White Psychiatric Foundation, 1947), pp. 18-22.

[2] Manford Kuhn, "Reference Group," A Dictionary of the Social Sciences, eds. Julius Gould and William L. Kolb (New York: The Free Press, 1964), pp. 580-581.

Hypothesis VII

The concept of academic significant other (ASO) attempts to particularize the significant other of Sullivan by placing it within a stated situation, in this case the school. It attempts to determine the sources of a particular definition of self, the definition of self as a student. Operationally ASO is defined as responses to the question, "Who are the people you feel are concerned about how well you do in school?"

This research will make explicit who such others are, will determine their relative importance in terms of frequency of mention, and will compare the ASOs named by EMR special class students with those ASOs named by a population of regular class students.

Hypothesis VIII

The hypothesized increase in the proportion of EMR students naming teachers as ASOs is based on conceptualizing the special class teacher as an important influence in the redefinition of self undergone by the EMR upon being labeled and placed in a special class.

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[1] Joiner, Lee M., et. al., "The 'Significant Others' of Educable Mentally Retarded Adolescents in a Special Class: A Comparison with Regular Class Students," An unpublished research report, 1965.

Discussion of Questions

The first question is included for study because groups constructed on the basis of variables like age, sex, socioeconomic status, and school system may demonstrate varying GSCA patterns as a result of varying expectations. For instance, since previous research based on role expectation models has demonstrated that retardation differentially affects males and females in our society,[1] varying reactions to special class placement may occur according to sex. Also, previous research has indicated that persons from various socioeconomic levels react differently to retardation.[2] Thus a student labeled EMR may learn different self definitions according to socioeconomic level.

Similarly, age and school system are studied because they may pinpoint varying definitions of retardation. Younger students' conceptions of the EMR and their special class may vary from the conceptions of older students. Or behavioral requirements for being labeled retarded may differ according to the student's age. Likewise, the behavior required for being labeled EMR in one community may vary from the behavior required in another community. And because expectation is an aspect of definition, varying reactions to special class placement may occur according to age group or community.

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[1] See Leta S. Hollingworth, "Differential Action upon the Sexes of Forces which Tend to Segregate the Feebleminded," Studies in Individual Differences, eds. James J. Jenkins and Donald G. Paterson (New York: Appleton-Century-Crofts, Inc., 1961), pp. 185-197; Bernard Farber, "Effects of a Severely Retarded Child on the Family," Readings on the Exceptional Child, eds. E. Philip Trapp and Philip Himelstein (New York: Appleton-Century-Crofts, Inc., 1962), pp. 227-246; Lindsey Churchill, "Sex Differences among Mildly Retarded Admissions to a Hospital for the Mentally Retarded," American Journal of Mental Deficiency, LXIX (September, 1964), pp. 269-276; and Julius S. Cohen and Herbert Rusalem, "Occupational Values of Retarded Students," American Journal of Mental Deficiency, LXIX (July, 1964), pp. 54-61.

[2] See Bernard Barber, "A Study of the Attitudes of Mothers of Mentally Retarded Children as Influenced by Socio-Economic Status," Dissertation Abstracts, XXIV (1963), p. 415; Walter H. Ehlers, "The Moderately and Severly Retarded Child: Maternal Perceptions of Retardation and Subsequent Seeking and Using Services Rendered by a Community Agency," American Journal of Mental Deficiency, LXVIII (March, 1964), pp. 660-668; Farber, op. cit.; and Mercer, op. cit..

Questions two and three are included because from a Median perspective, identifying significant others and changes in who are one's significant others are important concerns. Since significant others are conceptualized as being the primary source of self definition, changes in behavior may be explained, in part, as an outcome of changing significant others.

CHAPTER III

RELATED RESEARCH

Social Psychology and Mental Deficiency

From the early works of Barker, Wright and Gonick[1] to the present day,[2] a social psychological orientation to understanding human behavior has been utilized in the study of exceptional children. In recent years constructs like self-concept, others, and role have increasingly appeared in discussions of EMR students. A persistent voice has been that of Lewis Dexter. He contends:

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[1] Roger G. Barker, Beatrice A. Wright, and Mollie Gonick, Adjustment to Physical Handicap and Illness (New York: Social Science Research Council, Bulletin 55, 1946).

[2] See Lee Meyerson, "Physical Disability as a Social Psychological Problem," Journal of Social Issues, IV (1948), 1-10; Merrill T. Hollingshead, "The Social Psychology of Exceptional Children: Part I in Terms of the Characteristics of Exceptional Children," Exceptional Children, XXVI (1959), 137-140; Matthew J. Trippe, "The Social Psychology of Exceptional Children: Part II in Terms of Factors in Society," Exceptional Children, XXVI (1959), 171-175: Maynard C. Reynolds, "The Social Psychology of Exceptional Children: Part III in Terms of the Interaction of Exceptional Children with Other Persons," Exceptional Children, XXVI (1959), 243-247; Beatrice Wright, Physical Disability - A Psychological Approach (New York: Harper & Row, 1960); Albert Cutler, "Place of the Self Concept in the Education of the Physically Different Child," Exceptional Children, XXVIII (1962), 343-349; William Washburn, "Patterns of Self Concepts Related to Problems of Neuroses and Delinquency in Adolescents," Exceptional Children, XXIX (1963), 341-347; Edward Frankell, "Effects of a Program of Advanced Summer Study on the Self Perception of Academically Talented High School Students," Exceptional Children, XXX (1964), 245-249.

> . . . mental retardation may, in large measure, be a social role, acquired as a result of experience, by high-grade retardates, who have been assigned certain statuses as a result of manifest psychobiological characteristics. And the major characteristics of the role may have as little necessary relationship to the psychobiological base as, for example, the Victorian conception of "Woman" had to the actual differences between the male and female of Homo Sapiens.[1]

This approach to mental retardation has important implications for research. For Dexter it means:

> . . . the central problem of research on the high-grade retarded may be to learn how to reverse or counteract the role-status effects of having been treated as retarded.[2]

A recent review of social psychological theoretical approaches and empirical studies relevant to the mentally retarded focused upon the "stimulus propeties of the defective" and upon "social determinants of the defective's behavior.[3] Related to this research are several "viewpoints" and hypotheses advanced in summary of the review:

> (1) In a normal group, the defective is likely to be seen as deviant in ability . . . .
> (2) The behavior of persons interacting with defectives may be seen as a function of their expectations concerning the defective's behavior and the actual behavior shown by the defective in that situation. If many persons have similar expectations (role concepts) concerning the defective's behavior, interactive behavior may be well predicted or explained using the concept of complimentary roles. The behavior of the defective, in turn, may be determined to

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[1] Dexter, "Research on Problems of Mental Subnormality," p. 838.

[2] Ibid., p. 836.

[3] Samuel Guskin, "Social Psychologies of Mental Deficiency," Handbook of Mental Deficiency: Psychological Theory and Research, ed. Norman Ellis (New York: McGraw-Hill, 1963), pp. 325-352.

> some extent by consistent expectations and behavior on the part of others; i.e., much of the defectives behavior may be fruitfully seen as role performance.
> (3) Popular attitudes and stereotypes may to some extent influence the way the individual defective is evaluated by others . . . .
> (4) Observed defectives present variable cues in respect to their defect . . . . there is considerable resistance to judging a person as subnormal.
> . . . .
> (6) The presence of a defective in the family may lead to disruption in family relationships, unfavorable attitudes toward the defective member, and modifications in the parents' child-rearing practices.
> . . . .
> (8) Many social psychological phenomens observable and measurable among normals may also be studied and found among defectives.[1]

Jane Mercer's "social system" discussion is also an attempt to explain the mentally retardeds' behavior as it occurs within a social context.[2] Since its theoretical antecedents were discussed previously,[3] emphasis here will be on her interpretation of empirical findings. Briefly, however, Mercer sees mental retardation as a socially derived label which depends upon the current value system of the particular social system within which one is being judged. In this sense, mental retardation depends not only on the behavior of an individual but also on the normative system within which he is judged.[4]

Within the above framework Mercer compared a group of labeled retardates who had been released to their families from a state hospital for the retarded with a matched group of patients who remained in the hospital. She found, "the families of the released patients rated significantly lower than the families of the resident patients on every measure [of socioeconomic status].[1]

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[1] Ibid., pp. 348-349.

[2] Mercer, op. cit., pp. 18-34.

[3] Supra, pp. 9-11.

[4] Mercer, op. cit., p. 20.

Explanations based on I.Q. level, incidence of physical handicap, and diagnostic category failed to account for the differential release rate. However, comparisons based on investigations of the families' life style, values, and definitions of the patient resulted in several interesting findings. For example:

> Although the children in both groups are equivalent, from a clinical perspective, in the amount of retardation, the high status parent is more convinced that his child is retarded, has classified him as retarded at a younger age, is more likely to believe that nothing will change his condition, and sees him as likely to have a future in which he will be dependent either in an institution or at home. On the other hand, the low status parent lived with his child for a longer time before anyone labeled him as retarded, and is less willing to say, unequivocably, that the child is retarded. He is more likely to believe the condition is amenable to change and is more prone to believe the patient will be able to assume adult occupational and marital roles.[2]

These differences were explained in terms of the life style and normative expectations of the family:

> When a retardate lives in an environment in which dependency is a common way of life, minimal education the rule rather than exception, and occupational achievement limited, his own dependent, educationally deficient, occupationally re-

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[1] *Ibid*., pp. 24-25.

[2] *Ibid*., pp. 30-31.

> stricted mode of life does not deviate markedly from that of his family and associates. Under these circumstances, his intellectual deficit is less obvious and his role performance more acceptable to his group than in an environment in which his parents and siblings are highly educated, adult persons are self-supporting, and upward mobility is commonplace.[1]

Mercer concluded:

> Within the social system perspective, it becomes clear that persons who are clinically similar may be defined quite differently by their primary social system. The person from lower status social systems is less likely to be perceived as mentally subnormal.
>
> . . . Apparently, these differential definitions do make a difference because the group which diverges most widely from official definitions is the group in which the most individuals are released from the institution to their families.
>
> . . . These social systems (those which diverge most widely from official definitions) seem to be characterized by low educational achievement, high levels of dependency, and high concentrations of ethnic minorities.[2]

As early discussions of the implications of social-psychological theory to the field of mental retardation, the discussions of Dexter, Guskin, and Mercer have done several things for those interested in studying the school-related behavior of EMR students. They have provided models for conceptualizing the EMR's behavior. They have indicated problem areas and variables which need to be studied. They have demonstrated the utility of a social psychological approach to mental retardation. Most important, perhaps, they have stimulated thinking which should add an important dimension to understanding the mentally retarded.

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[1] Ibid., p. 33.

[2] Ibid., p. 34.

Self Concept

Self-concept has been studied under many labels. There has been the "self," the "real self," the "phenomenal self," the "looking-glass self," the "social self," and many others. It is beyond the scope of this review to assess and compare the hundreds, perhaps thousands, of studies undertaken to investigate these labels. Instead, a limited number of generalizations will be made and more detailed attention will be paid to the findings of a few studies related to the research reported herein.

The self-concept generalizations which have received general support are:

(1) Self-concept is an important variable for explaining the behavior of individuals.[1]

(2) An individual's self rating is significantly related to others' ratings of him.[2]

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[1] Emory L. Cowen, "An Investigation into the Relationship Between Two Measures of Self Regarding Attitudes," Journal of Clinical Psychology, XII (1956), 156-160; Rosalind Dymond, "An Adjustment Score for Q Sorts," Journal of Consulting Psychology, XVII (1953), 339-342; William H. Fitts, "The Role of the Self-Concept in Social Perception," Dissertation Abstracts, XV (1955), 463; Ernest R. Hilgard, "Human Motives and the Concept of Self," American Psychologist, IV (1949), 374-382.

[2] Malcolm M. Helper, "Learning Theory and the Self Concept," Journal of Abnormal and Social Psychology, LI (1955), 184-194; Melvin Manis, "Social Interaction and the Self-Concept," Journal of Abnormal and Social Psychology, LI (1955), 362-370; Richard Videbeck, "Self-Conception and the Reaction of Others," Sociometry, XXIII (1960) 351-359; S. Frank Miyamoto and Sanford Dornbusch, "A Test of Interactionist Hypotheses of Self Conception," American Journal of Sociology, XXI (1956), 399-403.

(3) The self-concept of an individual can change.[1]

(4) When measuring self-concept, Ss reports are more likely to have a positive bias than a negative bias.[2]

Of particular interest to the research reported here have been the studies of school-related self definitions of ability reported by Ruth Wylie[3] and by Wilbur Brookover.[4] When investigating the idea that differences in cultural learning opportunities result in differences in self-concepts concerning one's intellectual abilities, Wylie found:

> (1) White girls make more modest estimates of their ability than do white boys; (2) Negro Ss make more modest estimates of their ability than do white Ss; (3) Children of lower socioeconomic levels make more modest estimates of their ability than do children of higher socioeconomic levels.[5]

Wilbur Brookover has investigated the nature of the self-concept-of-ability and studied its effect upon the school achievement of a class of urban students from grade seven through grade twelve. Relevant to this report are the conclusions of a longitudinal analysis of data from grades seven, eight, nine, and ten:

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[1] Ruth C. Wylie, The Self-Concept: A Critical Survey of Pertinent Research Literature (Lincoln, Nebraska: University of Nebraska Press, 1961). This is the most comprehensive, available review of self concept studies.

[2] Seth Arsenian, "Own Estimates and Objective Measurement," Journal of Educational Psychology, XXXIII (1942), 291-302; Richard M. Brandt, "The Accuracy of Self-Estimate: A Measure of Self-Concept Reality," Genetic Psychology Monographs, LVIII (1958), 55-99; David H. Russell, "What Does Research Say about Self Evaluation," Journal of Educational Research, XLVI (1953), 561-571.

[3] Ruth C. Wylie, "Children's Estimates of Their School-Work Ability as a Function of Sex, Race, and Socioeconomic Level," Journal of Personality, XXXI (1963), 203-224.

[4] Wilbur B. Brookover, Ann Patterson, and Shailer Thomas, "Self-Concept of Ability and School Achievement, Cooperative Research Project No. 845, U.S. Office of Education, East Lansing: Bureau of Education Research Services, College of Education, Michigan State University, 1962; and Brookover et al, "Improving Academic Achievement Through Students' Self-Concept Enhancement," op. cit.

[5] Wylie, "Children's Estimates of Their School-Work Ability as Function of Sex, Race, and Socioeconomic Level," p.223.

> Self-concept of ability is a significant factor in achievement at all levels, 7th through 10th grades.
>
> The perceived evaluations of significant others are a major factor in self-concept of academic ability at each grade level, eight through ten.
>
> Change or stability in the perceived evaluations of others is associated with change or stability in self-concept.
>
> Change or stability in self-concept of ability is associated with change or stability in achievement. The associated change in achievement is noted, however, only over longer periods of time (3 years).
>
> . . . .
>
> The relationship of self-concept to achievement is not associated with school attended.
>
> Socio-economic class has a low relationship to self-concept of ability and achievement. Furthermore, the relationship of SES to achievement decreases from grade seven through ten. Change analysis indicated no association between SES and self-concept or achievement.
>
> Self-concept is not merely a reflection of memory of past performance.
>
> . . . .
>
> There are no consistent sex differences in the relationships of self-concept with achievement.
>
> . . . .
>
> Self-concept of ability is not merely a reflection of memory of how teachers graded in the past, but memory of how teachers graded is more relevant than memory of past performance.
>
> Self-concept is not merely a reflection of past achievement.[1]

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[1] Brookover et al, "Improving Academic Achievement Through Students' Self-Concept Enhancement," pp. 201-202.

Additional research which may grow out of this study is suggested by Brookover's efforts to enhance the self-concept of ability of low-achieving students:

> It is concluded that the self-concept of ability of low achieving students can be enhanced by working with parents and that this improvement in self-concept will be reflected in improved academic performance.[1]

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[1] *Ibid.*, p. 100.

Self Concept of the Mentally Retarded

Until recently, little research had been undertaken to gain insight into the self concepts of the mentally retarded. In 1961 Henry Cobb wrote:

> Virtually everything in the literature concerning the psychology of self relates to people with basically normal mental processes . . . . Most of what we know, or can guess at, concerning such things as the retarded person's self-identity, or self image, and self esteem comes from clinical interpretations rather than from experimental studies.[1]

For his 1964 review of research dealing with the personality of the mentally retarded, Rick Heber could locate only two "self" studies. He concluded:

> Despite the importance of global concepts of "feelings about one's self" in contemporary personality theory, one can only speculate about the self-concept of the mentally retarded.[2]

An important contribution toward taking knowledge of the retardates' self concept out of the realm of speculation has been the work of George Guthrie, Alfred Butler, Leon Gorlow, and their associates. In an effort to investigate the hypothesis that retardates' self attitudes[3] are a significant influence in their motivation for and acceptance of learning experiences, the Guthrie research team has developed a self-attitude scale, has measured correlates of self-attitude as indicated by the scale, and has attempted to effect positive change in retardates' self-attitudes.

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[1] Henry V. Cobb, "Self Concept of the Mentally Retarded," Rehabilitation Record, (May-June, 1961), 21-25.

[2] Rick Heber, "Personality," Mental Retardation A Review of Research, eds. Harvey A. Stevens, and Rick Heber (Chicago: University of Chicago Press, 1964), pp. 143-174.

[3] In the Guthrie research reports self attitude, self, and self acceptance are all defined within a phenomenological framework. That is, they deal with the subject's view of himself and of the attitudes of others toward him as they are consciously communicated by the subject.

In their first report Guthrie, Butler, and Gorlow[1] described the development of a 150 item self-attitude questionnaire which was administered to a population of institutionalized and non-institutionalized female retardates (CA range 14-18; IQ range 50-80). Upon analysis seven factors were identified, each a "hypothetical organization of self-attitudes which some of the Ss maintain."[2] Three positive themes were, "There's nothing wrong with me, I do as well as others do, I don't give trouble."[3] Four themes of failure were, "I act hatefully, I am shy and weak, I am useless, and nobody likes me."[4]

In a second study[5] the Laurelton Self-Attitude Scale was administered to 164 institutionalized females (IQ rance 50-80; CA range 16-22) and associations between the obtained scores and selected variables were studied. It was found that higher intelligence is associated with more positive self-attitudes. Achievement scores in reading and arithmetic were positively correlated with self-acceptance,[1] as were completion of training programs and parole success. Moreover, when the effect of intelligence was partialled from these correlations, the values remained essentially unchanged.[2]

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[1] George M. Guthrie, Alfred Butler, and Leon Gorlow, "Patterns of Self-Attitudes of Retardates," *American Journal of Mental Deficiency*, LXVI (September, 1961), 222-229.

[2] *Ibid.*, p. 229.

[3] *Ibid.*, p. 227.

[4] *Ibid.*, p. 228.

[5] Leon Gorlow, Alfred Butler, and George M. Guthrie, "Correlates of Self-Attitudes of Retardates," *American Journal of Mental Deficiency*, LXVII (January, 1963), 549-555.

Another interesting finding was the small but significant relationship between length of institutionalization and expressed self-acceptance.[3] An interpretation advanced to explain the correlation was:

> . . . the removal of the individual from a more highly competitive (and rejecting?) society to an environment in which his needs are better understood, permits the development of a more positive self-attitude with relative success within the institutionalized setting.[4]

In the most recent report, Guthrie and others[5] described a picture test for identifying some of the major dimensions of self-attitudes of retardates. They found:

> . . . within the limits of our stimulus series and of our populations of Ss, among retarded women there are a number of themes of central importance in their attitudes toward themselves. On the positive side these include being the center of attention among girls, being popular with men, being friendly

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[1] By self acceptance the authors mean the ". . . tendency to accept favorable things about oneself and . . . to reject negative statements about the self." Ibid., p. 550.

[2] Ibid., p. 553.

[3] Ibid.

[4] George M. Guthrie et al., "Non-Verbal Expression of Self Attitudes of Retardates," American Journal of Mental Deficiency, LXIX (July, 1964), 42-49.

> with peers, and being conforming and compliant. On the negative side, self-attitude dimensions include being ignored, isolated, dominant, and angry and not receiving even though one gives.[1]

When contrasting these findings with their clinical experience, the authors concluded:

> . . . Clinicians have probably oversimplified the positive and negative reactions of retardates. They have also failed to realize the degree to which these are dependent on the attitudes of others.[2]

Other findings related to the mentally retarded's self-attitudes were reported. Guthrie, Butler, and Garlow[3] compared a group of retarded girls in public school special classes with a matched group of institutionalized girls and found the institutionalized girls have much more negative self-attitudes. When Garlow and others[4] measured changes in self-attitudes by institutionalized female retardates (IQ range 50-80; CA range 15-23) following group therapy, neither positive change in self-attitude nor improved institutional behavior were noted. Kniss and others[5] studied the ideal self-concepts of mentally retarded adolescents

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[1] Ibid., pp. 46-47.

[2] Ibid.

[3] George M. Guthrie, Alfred Butler, and Leon Garlow, "Personality Differences Between Institutionalized and Non-Institutionalized Retardates," American Journal of Mental Deficiency, LXVII (January, 1963), 543-548.

[4] Leon Garlow et al., "An Appraisal of Self-Attitudes and Behavior Following Group Psychotherapy with Retarded Young Adults," American Journal of Mental Deficiency, LXVII (May, 1963), 893-898.

[5] Janet T. Kniss et al., "Ideal Self Patterns of Female Retardates," American Journal of Mental Deficiency, LXVII (September, 1962), 245-249.

(79 female, institutionalized retardates; IQ range 50-85; CA range 15-23). She reported:

> This population of retardates, then, appears to conceptualize ideal self in terms of a general factor of personal worth and physical health, and specific factors which represent modes of getting along with other people. These modes may be characterized as (1) acting in a socially conforming way, (2) maintaining emotional control, (3) utilizing physical assertiveness, and (4) relating in a fearful, deceptive manner.[1]

In addition, no significant correlations were found between ideal self-attitudes and age, length of institutionalization, and intelligence.[2]

Even though the series of studies reported by Guthrie and his associates utilize a definition of self different from that of the present study and were carried out with a primarily institutionalized female population, they are relevant to the reported effort:

(1) They demonstrated that retarded indicividuals have attitudes toward self which can be studied.

(2) They showed that various kinds of achievement, including school achievement, are positively correlated with positive views of self.

(3) They made explicit the important role of others in the retarded's conception of self.

(4) They provided methodological models for doing research dependent upon the retardate's communicative ability.

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[1] *Ibid.*, p. 247.

[2] *Ibid.*, p. 248

Educational researchers studying EMR students have contributed to a slowly growing body of preliminary findings related to the EMR's self-concept. When subjects were classified "according to the length of time they had been in special education" (0 to 24 months versus 25 to 28 months), McMillan[1] discovered no differences among the self-concepts of "intellectually retarded adolescents". Bacher[2] reported no significant differences in self-concept between "slow learners" placed in special classes and "slow learners" who remained in regular classes. Curtis[3] compared "mentally retarded adolescents" with other groups and found ". . . the greater the intelligence of the group of subjects the more positive was the self concept." Similarly, Piers[4] reported the self-concepts of institutionalized retarded girls to be significantly lower than normal girls in the third, sixth, and tenth grades.

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[1] Frank McMillan, "A Study of the Relationships of Selected Subject and Situational Variables to the Social Adjustment of Intellectually Retarded Adolescents," Dissertation Abstracts, XXV (1965), 5742-5743.

[2] Jesse H. Bacher, "The Effect of Special Class Placement on the Self-Concept, Social Adjustment, and Reading Growth of Slow Learners," Dissertation Abstracts, XXV (1965), 7071.

[3] Leonard T. Curtis, "A Comparative Analysis of the Self-Concept of the Adolescent Mentally Retarded in Relation to Certain Groups of Adolescents," Dissertation Abstracts, XXV (1965), 2846-2847.

[4] Ellen V. Piers and Dale B. Harris, "Age and Other Correlates of Self-Concept in Children," Journal of Educational Psychology, LV (1964), 91-95.

When Snyder[1] and Wink[2] used the Laurelton Self Attitude Scale to analyze the relationship between achievement and self attitude, they found that Ss with high self-acceptance scores achieved at a higher level than did those with low self-acceptance scores.

While different measures were used to operationalize self-concept in the studies just reviewed, it appears they all subscribe to a global conception of self. They attempt to measure what an "objective" observer would infer after drawing upon all possible sources of information.[3] Operationalizing "self-concept" from a global perspective is quite different from the Median approach used in this study. Here "self-concept" is more cognitive and social, and in-so-far as it is tied to a specific situation, it is a particular self definition among many self definitions.

An educational study of the EMR's self concept closely related to self concept as the construct is used in this analysis is Ringness's[4] report on "certain aspects of the reported self-concept among children with varying degrees of intelligence." He concluded that mentally retarded children tend to overestimate their success, have less realistic self-concepts, and have less reliable self ratings than do average or bright children.[1]

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[1] Robert T. Snyder, "An Investigation of Personality Variability as a Major Determiner of the Degree of Academic Attainment Among Educable Retardates," Dissertation Abstracts, XXV (1965), 3409.

[2] Charles F. Wink, "Mental Retardation and Learning under Symbolic Reinforcement in View of Self-Acceptance," Dissertation Abstracts, XXIII (1963), 2430-2431.

[3] For a discussion of the various approaches to self and self-conception see Manford Kuhn, "Self," A Dictionary of the Social Sciences, eds. Julius Gould and William L. Kolb (New York: The Free Press, 1964), p. 629-630; and Manford Kuhn, "Self-Conception," Ibid., p. 630-631.

[4] Thomas A. Ringness, "Self-Concept of Children of Low Average, and High Intelligence," American Journal of Mental Deficiency, LXV (1961), 453-461. The Ringness instrument for

Also of interest to this undertaking is the attention the Ringness study has received from others. Heber felt that Ringness's use of self-concept was "idiosyncratic".[2] In terms of Heber's global approach to self and the psychologically oriented operationalizations of self generally found in research literature, the "idiosyncratic" judgment can be understood. However, Ringness's particularized approach to self-concept is in accord with acceptable operational procedures[3] and should not be though to be invalid because of Heber's judgment. In fact, because research using global approaches to self-attitudes has demonstrated only weak trends and lack of comparability among studies it has been argued that a "more restricted" approach (the approach of Ringness and of this study) may result in more fruitful research," . . . based on the

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measuring self-concept is quite similar to the instrument used herein. It is an eight item Likert scale with four items directly related to academic judgments. Furthermore, Ss were asked to use their classmates as a framework for making the necessary comparisons.

[1] _Ibid_.

[2] Heber, _op. cit_., p. 147.

[3] Kuhn, "Self-Conception," _loc. cit_.

assumption that such abilities are salient for both the culture and the individual."[1]

The Ringness study was also noted by Gardner[2] who criticized it because examiners aided the mentally retarded in making judgments by "suitable probing". While the criticism may be valid (but we cannot be certain because Ringness did not discuss the nature of his probing), the interview technique does not necessarily invalidate or even weaken research with the retarded.[3] Because a structured interview is the primary research tool used in this project, its strengths and weaknesses are discussed later in this chapter.

To the author's knowledge descriptive studies of social processes[4] attending being labeled EMR and being placed in a special class have not been reported. But Edgerton and Sabagh have described such processes in a study of the careers of the "more intelligent" patients in a state hospital for the mentally retarded.[1] While institutionalization is a more extreme situation, certain parallels with special class placement are evident. For example, placement in a special class and commitment to a state hospital may create problems for those who reject the retarded role. Edgerton and Sabagh discuss three possibilities for such individuals. They may: (1) accept the self as retarded; (2) redouble efforts to deny retardation; or (3) retreat into a private schizoid world.[2] In addition Edgerton and Sabagh emphasize that while a concept-of-self as retarded is congruent with custodial goals, a concept-of-self as non-retardate enables one to be "better able to pass (as non-retarded) when he is released from the hospital."[3]

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[1] Ruth C. Wylie, "Children's Estimates of Their Schoolwork Ability, as a Function of Sex, Race, and Socioeconomic Level," pp. 203-224.

[2] William I. Gardner, "Personality Concomitants of Mental Retardation," Strategies for Behavioral Research in Mental Retardation: A Seminar Report, ed. Kenneth R. Wilcox, Cooperative Research Project No. G-I (Madison, Wisconsin: University of Wisconsin School of Education, 1961), pp. 86-97.

[3] Marwin J. Fine, The Security of Educable Mentally Retarded Boys in Relation to Special Class Placement, Unpublished Doctoral Dissertation, Michigan State University, 1965, p. 51, for example, says that ultimately interviewing may provide better personality research with the mentally retarded.

[4] Social process as used here means, "a transition or series of transitions between one social condition and another." See Russell L. Langworthy, "Process," A Dictionary of the Social Sciences, eds. Julius Gould and William L. Kolb (New York: The Free Press of Glencoe, 1964), 538-540.

Even though most of the studies discussed above, like the Guthrie studies, are somewhat at variance conceptually with this research, they suggest: (1) The self-concept of EMR students can be studied; (2) The self-concept of EMR students is related to school achievement; and (3) The self concept of EMR students may be higher than anticipated.

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[1] Robert B. Edgerton and George Sabagh, "From Mortification to Aggrandizement: Changing Self-Concepts in the Careers of the Mentally Retarded," *Psychiatry*, XXV (August, 1962), 263-272.

[2] *Ibid.*

[3] *Ibid.*

Perception of the Mentally Retarded

A basic assumption of this research is that being labeled EMR and placed in a special class is an instance of being removed from one role and placed in another role, a lesser role, a role having lower status than the role of regular class student. A good deal of support for the assumption is found in "expert" opinion and research reports. For example, every author sampled agreed that mentally retarded children are held in low esteen by their peer group. Kirk wrote that the mentally retarded are, ". . . isolated and rejected by their peer group."[1] Dunn remarked, "the retarded are socially segregated even when they are physically integrated."[2] Goldstein agreed in that the EMR ". . . can be present physically but absent socially and psychologically."[3] Jordan felt a cleavage existed between the EMR and his peers, ". . . whether the retardate is in school or not."[4]

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[1] Samuel A. Kirk, op. cit., p. 126.

[2] Lloyd M. Dunn, Exceptional Children in the Schools (New York: Holt, Rinehart & Winston, 1963), p. 80.

[3] Herbert Goldstein, The Educable Mentally Retarded Child in the Elementary School (Washington, D.C.: National Education Association, 1962), p. 16.

[4] Thomas E. Jordan, The Mentally Retarded (Columbus, Ohio: Charles E. Merrill, 1961), p. 80.

Apparently, expert opinion is based to a large extent on various sociometric studies, the best known being that of Johnson.[1] He found that the EMR in regular classrooms were less accepted and more rejected than were "typical" children and that sociometric status was directly related to IQ.[2] Dentler and Mackler reviewed representative sociometric studies of the mentally retarded and found ". . . high agreement with the generalization that individual ability is positively and significantly associated with choice status. . ."[3] Consequently, they called for a moratorium regarding like studies.[4]

To investigate the adverse picture of the mentally retarded which emerges from the writings of people interested in retardation and from sociometric research, Samuel Guskin organized a series of studies designed to clarify the stimlus value of labeling a child mentally retarded upon others' judgments of subnormality. In his initial report Guskin indicated that telling others an EMR child's age resulted in greater perceived subnormality while telling others the child had a speech defect resulted in lower subnormality ratings.[1] But telling others the child was mentally deficient had no influence upon perceived subnormality.[2]

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[1] Orville Johnson, "A Study of the Social Position of Mentally Handicapped Children in the Regular Grades," American Journal of Mental Deficiency, LV (1950), 60-89.

[2] Ibid.

[3] Robert A. Dentler and Bernard Mackler, "Mental Ability and Sociometric Status among Retarded Children," Psychological Bulletin, LIX (1962), 273-283.

[4] Ibid.

In two subsequent reports, Guskin[3,4] described research which tested his initial findings. Contrary to the initial report, it was noted that being labeled mentally subnormal does result in greater perceived subnormality under two conditions: "(1) the child himself also presents relevant cues to his subnormality but (2) these cues are still ambiguous in their implications."[5]

For EMR students such findings suggest that an EMR label would have no effect upon others' judgments of their subnormality unless there were something odd about the EMR which while not necessarily suggesting retardation could be explained by an EMR label. Inadequate school performance - poor reading, poor writing, and poor arithmetic - is an example of something "odd" which can be explained by an EMR label.

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[1] Samuel L. Guskin, "The Perception of Subnormality in Mentally Defective Children," American Journal of Mental Deficiency, LXVII (July, 1962), 53-60.

[2] *Ibid.*

[3] Samuel L. Guskin, "Measuring the Strength of the Stereotype of the Mental Defective," American Journal of Mental Deficiency, LXVII (January, 1963), 569-575.

[4] Samuel L. Guskin, "The Influence of Labeling upon the Perception of Subnormality in Mentally Defective Children," American Journal of Mental Deficiency, LXVII (November, 1962), 402-406.

[5] *Ibid.*

Guskin also found considerable agreement regarding traits attributed to the mentally retarded.[1] In general, they were thought to be less assertive, less capable, and less normal than the average individual.[2] A factor analysis of the mentally retarded compared to other types of children disclosed a strong factor contrasting the normal and the retarded.[3] And while the mildly retarded were discriminated from the severely retarded; they were see to be similar to delinquents and the emotionally disturbed.[4]

Similar findings were reported by Clark[5] who studied regular class school childrens' perception of EMR special class students. To do this he showed photographs of thirteen EMR students identified only as "some children in the school" to 214 fourth and fifth grade students. They were asked to choose the photograph of the child they knew best and to tell about him or her. Clark reported that the EMR were more frequently identified as former classmates or as seen in school and the community than as members of the special class. Moreover, the EMR were more frequently described in terms of appearance and athletic ability than in terms of academic or intellectual ability.[1] And while the number of specific judgements evaluating the EMR's behavior unfavorably was significantly greater than the number of favorable judgments, the number of favorable over-all or global judgments was significantly greater than the number of unfavorable global judgments.[2]

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[1] The mentally retarded individuals used or referred to in Guskin's research were either members of public school special classes or recent graduates of such classes. Thus, unless modified in some way his mentally retarded refers to those typically found in the EMR category.

[2] Guskin, "Measuring the Strength of the Stereotype of the Mental Defective," passim.

[3] Samuel Guskin, "Dimensions of Judged Similarity among Deviant Types," American Journal of Mental Deficiency, LXVIII (September, 1963), 218-227.

[4] Ibid.

[5] Edward T. Clark, "Children's Perception of Educable Mentally Retarded Children," American Journal of Mental Deficiency, LXVIII (March, 1964), 602-611.

Clark concluded that the EMR are judged in terms of their individual stimulus value rather than in terms of intellectual limitation or special class status.[3] Thus, any one EMR may be accepted, rejected, or viewed with indifference by members of his peer group at school.

Clark also investigated the stimulus value of the special class.[4] In this instance the members of three fourth and fifth grade classes adjacent to a special classroom for EMR students were asked to "tell" about the special class. He concluded:

> The image of the special class which emerges from this study does not suggest that the majority of children in the regular grades derogate the special class, nor

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[1] *Ibid.*

[2] *Ibid.*

[3] *Ibid.*

[4] Edward T. Clark, "Children's Perception of a Special Class for Educable Mentally Retarded Children," *Exceptional Children*, XXX (March, 1964), 289-295.

> does it appear likely that the feedback to the special class pupils of the attitudes implicit in the subjects' reports would elicit the traits due to victimization. . .[1]

In light of the data Clark reported, his conclusion is difficult to understand. Of 193 total responses Clark classified only 21 as "derogations". But approximately 100 responses which he placed elsewhere might reasonably be classified as derogations since they indicate regular class children view the special class as being different and generally of a lesser nature. For instance, "retarded class," "arts and crafts class," "for keeping them apart from us," and "They try to make them think better" are responses which could be classified as derogations but which Clark placed in other categories.[3]

Clark presents other data which seemingly contradicts his conclusion. Of 148 descriptions of special class students, 139 described the EMR as being deviant in one way or another.[4] For example, the EMR were described as "not caught up," "not so advanced," "sick," "disturbed," "silly," and "think wrong."[5]

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[1] *Ibid*., p. 294.

[2] *Ibid*., p. 291.

[3] *Ibid*.

[4] *Ibid*., pp. 291-293.

[5] *Ibid*.

And not one regular class student expressed a desire to be in a special class.[1] As the student most favorable in his view of the special class replied when asked if he would like to be in the class:

> "Maybe. Yeah.," then paused and continued, "No, cause all the kids call them dumb kids - not right to their faces, but they tell the other kids. That's why I wouldn't want to be called one of them.[2]

That "other kids" do call special class students "dumb" right to their faces was reported by Ferreira and Johnson.[3] Of 200 EMR students interviewed in sixteen special classes, approximately 70% reported they ". . . had been called names because they were in the special class."[4] Typical remarks were: "dummy," "crazy," and "baby room".[5] Similarly, McCandless wrote:

> Anyone who has observed in the public schools knows that there is discrimination against pupils in "opportunity rooms." Common parlance for such classes by school children is "dummy rooms," and certainly some school systems make them little more than baby sitting arrangements.[6]

In conclusion, expert opinion and research evidence almost unanimously support the assumption that the EMR role is a low status role in the public school.

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[1] Ibid.

[2] Ibid.

[3] Joseph R. Ferreira and Clarence J. Johnson, "School Attitudes of Children in Special Classes for Mentally Retarded," California Journal of Educational Research, IX (1958), 33-37.

[4] Ibid.

[5] Ibid.

[6] Boyd R. McCandless, Children and Adolescents (New York: Holt, Rinehart and Winston, 1961), p. 233.

THE INTERVIEW

Because interviewing is a much used research technique in the social sciences, an extensive body of findings and informed opinion has been accumulated to guide those who use it to gather data.[1] And while almost all the work deals with the non-retarded, it has considerable relevance for interviewing the retarded, especially the EMR.

Most concern centers around the interview as a social relationship and the effect this has on both the respondent's answers and the interviewer's questioning and recording. When answers were analyzed according to combinations of the interviewer's and respondent's age and sex, Benney, Tiesman, and Star uncovered considerable variation in responses.[2] Lenski and Leggett found that the social class of the interviewer affected lower class respondent's answers.[3] Williams reported that bias in the answers of Negro respondents was associated with the race of the interviewer and the social distance between the interviewer and the respondent.[1] Robins discovered that out-of-town interviewers were more successful than were local interviewers.[2] Furthermore, Smith and Hyman reported that interviewers often recorded the answer they expected to hear rather than the answer actually given,[3] and Katz found the social status of the interviewer to be a source of error in interviews.[4]

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[1] See Robert L. Kahn and Charles F. Cannell, The Dynamics of Interviewing (new York: John Wiley and Sons, 1957); and Herbert H. Hyman *et al*., Interviewing in Social Research (Chicago: University of Chicago Press, 1954). Of particular help with the retarded is Leon J. Yarrow, "Interviewing Children," Handbook of Research Methods in Child Development, ed. Paul H. Mussen (New York: John Wiley and Sons, 1960).

[2] Mark Benney, David Reisman, and Shirley Star, "Age and Sex in the Interview," American Journal of Sociology, LXII (September, 1956), 143-156.

[3] Gerhard E. Lenski and John Leggett, "Caste, Class, and Deference in the Research Interview," American Journal of Sociology, LXV (March, 1960), 463-467.

In addition to the above enumerated sources of error, interviews require a relatively large investment in time, energy, and money plus a high degree of skill both in construction and administration. Such considerations would seem to indicate that other data gathering techniques would be generally preferable. However, as Vidich and Bensman point out: "The same errors, deception, misinformation, inhibitions, and role playing operate in even check-list research."[5] Also, since the same question often has different meanings for different people,[1] standardized questions are not as standard as they are touted to be. Most important, perhaps, is the realization that in spite of interview shortcomings some data cannot be as readily gathered by using other techniques. According to Kerlinger:

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[1] J. Allen Williams, Jr., "Interviewer-Respondent Interaction: A Study of Bias in the Information Interview," Sociometry, XXVII (September, 1964), 338-352.

[2] Lee N. Robins, "The Reluctant Respondent," Public Opinion Quarterly, XXVII (1963), 276-286.

[3] Harry L. Smith and Herbert Hyman, "The Biasing Effect of Interviewer Expectation on Survey Results," Public Opinion Quarterly, XIV (Fall, 1950), 491-506.

[4] Daniel Katz, "Do Interviewers Bias Poll Results?" Public Opinion Quarterly, VI (Summer, 1942), 248-268.

[5] Arthur Vidich and Joseph Bensman, "The Validity of Field Data," Human Organization Research Field Relations and Techniques, eds. Richard N. Adams and Jack J. Preiss (Homewood, Illinois: The Dorsey Press, Inc., 1960), 188-204.

> The best instrument available for sounding people's behavior, future intentions, feelings, attitudes, and reasons for behavior would seem to be the structured interview coupled with an interview schedule that includes open-end, closed and scale items.[2]

In a good deal of the research with the EMR, test administrators read questions to subjects and record their answers. This is a structured interview, and it is done to overcome the EMR's lack of reading skills. Gallagher, however, expressed little faith in the technique when used to measure personality development since he felt the mentally retarded ". . . may not have sufficient self-perception to accurately report his feelings or his probable overt behavior."[3] Gardner also questioned the interview method because he felt that any techniques ". . .depending upon the verbal responsiveness of the retardate will be of limited value."[1]

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[1] Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, Inc., 1965), p. 476.

[2] *Ibid.*

[3] James J. Gallagher, "Measurement of Personality Development in Pre-Adolescent Mentally Retarded Children," American Journal of Mental Deficiency, LXIV (September, 1959), 296-301.

Others are not as negative. Haas and Goldstein reported that the retarded can be effectively tested through simple modification in the tests themselves and in the examination procedures.[2] "Permissable alterations" they suggested are: advance information, rapport and encouragement, repetition, exceeding time limits, reading questions aloud, test feedback, and attentive listening.[3] Yarrow declared that direct interviewing can be done effectively with four-year-olds.[4] And with those having linguistic and motivational characteristics at a still lower level, "We can take advantage of the fact that passive vocabulary develops much earlier than active vocabulary."[5] Finally, Burg and Barrett discussed the development of a "Bi-sensory" approach to eliciting EMR responses related to interests which they felt had application to other research.[6] They showed a picture to the EMR subject while simultaneously giving an oral description followed by asking a question related to the picture.[1] Other researchers have also asked questions of the EMR and expressed satisfaction with the results.[2]

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[1] William I. Gardner, loc. cit.

[2] Kurt Haas and Milton Goldstein, "Effective Testing with the Retarded," Psychology: A Journal of Human Behavior, II (1965), 32-36.

[3] Ibid.

[4] Yarrow, op cit.

[5] Ibid.

[6] Billie W. Burg and Albert M. Barrett, "Interest Testing with the Mentally Retarded: A Bi-Sensory Approach," American Journal of Mental Deficiency, LXIX (January, 1965), 548-552.

Unfortunately, however, field methods and schedule construction have hardly ever been discussed in relation to the EMR. Researchers have seldom elaborated upon the techniques they used or the modifications they found to be particularly helpful. Only in certain of the self studies initiated by Guthrie, Butler, and Garlow[3] has there been even brief mention of field methods found useful for interviewing the retarded. Jacobs and Butler refer to a technique for constructing items by paraphrasing or directly quoting material gathered in interviews with the retarded.[4] When read aloud by the examiner the items ". . . lent themselves to the formation of a reliable, variable, and internally consistent measure."[1] Kniss[2] discussed an unforced Q sort technique where retarded subjects judged the relative value of fifty items on a five point scale: very good, good, ?, bad, very bad. To familiarize subjects with the task she administered sample items prior to the test itself. And the required answer set was reinforced every tenth item. She felt ". . .simplified direction. . .much clarification, [and]. . .meaningful examples" resulted in her high test-retest correlations -- uniformly above 80.[3].

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[1] *Ibid.*

[2] See Thomas E. Jordan and Richard DeCharms, "The Achievement Motive in Normal and Mentally Retarded Children," *American Journal of Mental Deficiency*, LXIV (November, 1959), 457-466; William H. Kern and Heinz Phaeffle, "A Comparison of Social Adjustment of Mentally Retarded Children in Various Educational Settings," *American Journal of Mental Deficiency*, LXVII (1962), 407-413; Ronald S. Lipman, "Children's Manifest Anxiety in Retardates and Approximately Equal MA Normals," *American Journal of Mental Deficiency*, LXIV (May, 1960), 1027-1028; and Margaret W. Pryer and Robert Cassel, "The Children's Manifest Anxiety Scale: Reliability with Aments," *American Journal of Mental Deficiency*, LXVI (May, 1962), 860.

[3] *Supra*, pp. 35-39.

[4] Robert Jacobs, Alfred Butler and Leon Garlow, "Measurement of Attitudes to Institutionalization," *American Journal of Mental Deficiency*, LXV (May, 1961), 766-771.

Other researchers have also shared some of their techniques and insights. McAfee and Cleland describe the use of the Thorndike and Lorge word list for adapting tests to be used with the retarded.[4] Fine listed four criteria of good tests for the mentally retarded:

> (1) Questions should be simply and clearly worded, (2) the duration of the testing should be short, (3) a limited number of alternatives should be present in any one item, and (4) the question content should fall within the child's experiential and conceptual framework.[5]

And using pictures to gather data from retarded subjects is discussed by Budoff[6] and by Parnicky, Kahn, and Burdett.[7]

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[1] Ibid.

[2] Kniss, op. cit.

[3] Ibid.

[4] Ronald O. McAfee and Charles C. Cleland, "The Discrepancy Between Self-Concept and Ideal-Self as a Measure of Psychological Adjustment in Educable Mentally Retarded Males," American Journal of Mental Deficiency, LXX (July, 1965), 63-68.

[5] Fine, op. cit.

[6] Milton Burdoff, "Animal vs Human Figures in a Picture Story Test for Young, Mentally Backward Children," American Journal of Mental Deficiency, LXVIII (September, 1963), pp. 245-250.

[7] Joseph J. Parnicky, Harris Kahn, and Arthur Burdett, "Preliminary Efforts at Determining the Significance of Retardates Vocational Interest," American Journal of Mental Deficiency, LXX (November, 1965), pp. 393-398.

Finally, the field of retardation greatly needs a systematic, analytic, comprehensive treatment of field research methods addressed specifically to the problems faced when attempting to gain information from the retarded. Perhaps more basic still, approaches to problems and apparent solutions must be shared. As Jones wrote:

> Problems of measurement in the area of mental retardation, as in any research area, find solution as a function of the imagination, the experience, the theoretical advances, and the hard work of the research investigator.[1]

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[1] Lyle V. Jones, "Problems of Devising and Selecting Appropriate Measurement Tools," American Journal of Mental Deficiency; LXIV (September, 1959), 384-393.

CHAPTER IV

PROCEDURES

Research Strategy

Conditions: This study operates within the framework of U.S. Office of Education Grant No. 32-32-0410-6001, *The Effect of Special Class Placement on the Self-Concept-of-Ability of the Educable Mentally Retarded Child*, which is designed as a longitudinal study extending over a period of experimental stress. It utilizes the "time-series" design discussed by Campbell and his associates[1] which when diagrammed for the reported study looks like this: $0_1\ 0_2\ X0_3\ 0_4\ 0_5\ 0_6$ (0 = testing, X = change in condition). The design embodies a finite series of measurements of experimental Ss obtained at *n* successive equally spaced points in time.[1] An experimental change is then introduced or a major change of conditions occurs at some point within the time series. In this instance tests one and two were administered while Ss were members of regular classes and did not know they had been selected for special class placement. The change in condition, placement in a special class, occurred at X. Tests three through six were given during the EMR's first year in a special class.

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[1] See Donald T. Campbell, "Factors Relevant to the Validity of Experiments in Social Settings," *Psychological Bulletin*, LIV (1957) 297-312; Donald T. Campbell and Julian S. Stanley, "Experimental and Quasi-experimental Designs for Research on Teaching," *Handbook of Research on Teaching*, ed. N.L. Gage (Chicago: Rand McNally, 1963), pp. 171-246; Donald T. Campbell, "From Description to Experimentation," *Problems in Measuring Change*, ed. Chester W. Harris (Madison, Wisconsin: University of Wisconsin Press, 1963), pp. 212-242; Joyce A. Sween and Donald T. Campbell, *The Interrupted Time Series as Quasi-experiment; Three Test of Significance*, an unpublished manuscript (Northwestern University, 1965); Joyce Sween and Donald T. Campbell, "A Study of the Effect of Proximally Autocorrelated Error on Tests of Significance for the Interrupted Time Series Quasi-experimental Design," an unpublished manuscript (Northwestern University, 1965).

The time-series design was much used in the physical sciences and in biology during the nineteenth century; however, it has seldom been used in educational research. Because of this and because it does not include a classical control group, the time-series design will be discussed at some length in order to make explicit both its limitations and the conditions under which it might meaningfully be employed. Before doing this, it will be helpful to outline Campbell's approach to examining the validity of experiments.

Campbell, while accepting the Fisher tradition for interpreting change, asserts that such conditions are often impossible or unnecessary in practice. What is necessary when there is evidence of change which one wishes to interpret causally is that other plausible, probable, causal explanations be ruled out. He describes' twelve classes of frequently plausible rival hypotheses divided according to their relevance to internal validity ("Did in fact the experimental treatments make the difference in the specific experimental instances?") or to external validity ("To what populations, settings, treatment variables, and measurement variables can this effect be generalized").[1]

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[1] Sween and Campbell, "A Study of the Effect of Proximally Autocorrelated Error on Tests of Significance for the Interrupted Time Series Quasi-Experimental Design," p. 2.

The eight classes of hypotheses relevant to internal validity are:

1. History; the other specific events occurring between the first and second measurement in addition to the experimental variable.
2. Maturation: processes within the respondents operating as a function of the passage of time per se (not specific to the particular events), including growing older, growing hungrier, growing more tired, and the like.
3. Testing: the effects of taking a test upon the scores of a second testing.
4. Instrumentation: changes in the calibration of a measuring instrument or changes in the observers or scorers which may produce changes in the obtained measurements.
5. Statistical regression: regression operating when groups have been selected on the basis of their extreme scores.
6. Selection: biases resulting in differential recruitment of respondents for the comparison groups.
7. Experimental mortality: the differential loss of respondents from the comparison groups.
8. Selection-maturation interaction, etc: in certain of the multiple-group quasi-experimental designs, such as the non-equivalent control-group design, such interaction is confounded with, i.e., might be mistaken for, the effect of the experimental variable.[2]

Factors jeopardizing external validity are:

9. The reactive or interaction effect of testing, in which a pretest might increase or decrease the respondent's sensitivity or responsiveness to the experimental variable and thus make the results obtained for a pretested population unrepresentative of the effects of the experimental variable for the unpretested

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[1] Campbell, "From Description to Experimentation," pp. 212-214.

[2] Ibid., p. 215.

universe from which the experimental respondents were selected.

10. Interaction effects between selection bias and the experimental variable.

11. Reactive effects of experimental arrangements, which would preclude generalization about the effect of the experimental variable for persons being exposed to it in nonexperimental settings.

12. Multiple-treatment interference, a problem wherever multiple treatments are applied to the same respondents, and a particular problem for one group designs involving equivalent time-samples or equivalent materials samples.[1]

In discussing the above list of problems applied to the time-series design, Campbell states that the design's most definite weakness is its failure to control history. That is, in order to interpret this experiment meaningfully, the plausibility of extraneous stimuli, non X more or less simultaneous events, causing the observed change must be negated.[2] Some possible extraneous stimuli which may be considered as causing change in the experimental instance are administrative arrangements such as examination schedules or holidays, changes in the weather or seasons, and intra session artifacts like experimenters, time of day, or the unique events of the session. These and other possible historical stimuli are considered in the analysis of data.

The time-series design controls all other factors that Campbell considers under external validity. Maturation and testing are ruled out since they do not provide plausible hypotheses explaining change occurring between particular observations which did not occur in previous or later time periods. Likewise, there is no plausible reason for expecting instrument error to occur on one particular occasion rather than on earlier ones. Regression effects are usually an orderly function of time and are thus an implausible explanation. Selection and mortality are ruled out since coincidences of subject changes do not plausible explain the effects of X.[1]

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[1] Ibid.

[2] Ibid., pp. 221-222.

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[1] *Ibid*., pp. 222-223.

Instrumentation

All instruments other than the evaluation questionnaire were originally developed by Wilbur Brookover and his associates for use in his longitudinal study of regular class students.[1] Instruments are: General Self-Concept of Ability Scale, Academic Aspirations Scale, Academic Expectations Scale, Class Evaluation Questionnaire, Significant Others Test, and Academic Significant Others Test.

Because extensive revision of the Brookover scales was not intended in this research, the difficulty level of the vocabulary used in the scales was determined prior to their being used with EMR students. Analysis of the scales was performed through reference to the Thorndike - Lorge word list.[2] In the GSCA scale all words except ten were at or below the third grade level. Of the ten words, seven words were at the fourth grade level and the remaining three, high-school, advanced, and unlikely, were at the sixth and seventh grade levels. In all other scales only three words, quit, secretarial, and graduate, were above the third grade level. Since listening comprehension vocabulary is generally accepted as being greater than reading comprehension vocabulary, the Thorndike - Lorge analysis leads one to be optimistic regarding the use of the Brookover scales with EMR students in individual testing situations.

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[1] Brookover, Patterson, and Thomas, op. cit.

[2] Edward L. Thorndike and Irving Lorge, The Teacher's Word Book of 30,000 Words (New York: Teachers College, Columbia University, 1944).

In addition to the research instruments, a series of questions was added to the beginning of the schedule to aid examiners in determining the Ss grasp of key words (See Appendix A). The questions were constructed to elicit a variety of answers dependent upon the Ss grasp of words like _rate_, _average_, _unlikely_, _rank_, and _definitely_. Examiners were instructed to explain all possible trouble words prior to beginning the test proper. Standardized definitions and examples were provided.

Extensive reliability findings regarding the GSCA Scale have been reported. Coefficients of reproducibility of .95 for males and .96 for females were computed for 1050 seventh grade students.[1] Reliability coefficients calculated by Hoyt's Analysis of Variance were .82, .91, .92, and .86 for males and .77, .84, .84, and .84 for females in the seventh, eighth, ninth, and tenth grades.[2] Correlations of .75 for males and .77 for females were reported in one year test-retest study.[3]

Validity studies of the GSCA Scale have also been reported. To test for concurrent validity, correlations were run between the GSCA Scale and specific subject self-concepts; correlations ranged from .54 to .73.[4] Evidence of construct validity was derived from correlations between the GSCA Scale and perceived evaluation of others. Correlations varied from .60 to .84.[1] Predictive validity was determined by correlating the GSCA Scale with grade point average. Correlations ranged from .69 to .72.[2]

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[1] Brookover _et al_., _op. cit_., p. 51.

[2] _Ibid_., p.52.

[3] _Ibid_.

[4] _Ibid_., p. 55.

As part of 32-32-0410-6601, a test-retest reliability study was conducted with 30 EMR students. Administration instructions and procedures were the same as those reported here. The resulting coefficient of stability, .73, compares favorably with those reported by Brookover for regular class students.[3] Also, Hoyt's Analysis of Variance[4] was carried out with the final test to obtain an index of the GSCA Scale's internal consistency when used with EMR students. Although relatively high, .74, the reliability index is considerably lower than those reported by Brookover.[5]

Careful administration of the testing schedule is important to this undertaking. With one exception,[6] all interviewers were doctoral candidates in special education who had had considerable experience with EMR students and with interview research. Prior to initial testing the interview schedule was carefully discussed with emphasis on possible trouble spots and on explanations and examples to be used if needed. And throughout the year administration techniques were reveiwed in hopes of effecting a more uniform administration.

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[1] _Ibid._, p. 56.

[2] _Ibid._, p. 56-57.

[3] _Supra_, p. 65.

[4] C. Hoyt, "Test Reliability Obtained by Analysis of Variance," _Psychometrica_, VI (1941), 153-156.

[5] _Supra_, p. 65.

[6] A regular interviewer was absent and an undergraduate male was substituted at the last minute. No bias was noted in his questionnaires.

Instructions to examiners were brief. They were told to introduce themselves as being from Michigan State University engaged in talking about school with student from all over Michigan. They were also to mention that this was an important undertaking which needed the student's help and that all answers would be confidential. During the administration itself, testers were to sit next to the subject with the questionnaire before them. The administrator would read the questionnaire to the subject who would say the answer or point to it on the schedule sheet. Then examiners would enter the answer on the questionnaire. If at any time subjects had a question or wished questions repeated, examiners were allowed to define words or give examples which they felt would increase the subject's grasp of the question's content.

The results of the test were coded item by item according to code sheets designed for the entire schedule. Then another clerk checked the coding for accuracy. After this the information was punched on IBM cards and verified.

Sample and Sampling Procedures

The population is defined as seven to fifteen year old children declared eligible by cooperating school systems (See Appendix C) for initial EMR special class placement in September 1965. The sample is those students actually placed. They were selected for placement according to Michigan standards (See Appendix B) and the particular administrative procedures and in situ demands of the cooperating districts. Whether a child initially declared eligible for EMR placement was actually placed in a special education class or remained in a regular class was determined solely by the particular school system; the researchers had nothing to do with the decision.

Several considerations led to accepting this procedure rather than the more ideal random selection of schools and subjects. Because a true random selection of schools, even in Michigan, would create very difficult problems, the mental retardation section of the Department of Public Instruction was asked to recommend schools that would be likely to cooperate in a research project. Of over twenty systems recommended and contacted, six eventually agreed to cooperate. They include: a large metropolitan system, a "well-to-do" suburban system, a small city system, a small town system, a large rural county system, and two lower middle class - working class suburban districts.[1]

Even though a wide variety of districts are included, strictly speaking, the sample can not be considered representative. For instance, systematic bias may exist between those districts who agreed to cooperate and those who did not. Similarly, districts recommended as being likely to cooperate in research may differ from those not recommended

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[1] Seven types are included because one system includes both a small city and a small town.

Likewise, instead of choosing subjects at random, the researchers accepted for study all students initially placed in special EMR classes by the cooperating districts. So, the EMR student is defined not as a person who has met particular biological, psychological, or social criteria but simply as a person who has been labeled EMR by official labeling bodies.[1] While avoiding a multiple criteria definition[2] precluded by both technical limitations and the in situ nature of the project, the definition still adheres to the social system perspective on retardation[3] underlying this work. The lack of randomness, however, does inhibit generalization since it cannot be claimed that subjects are representative of the EMR population in general, But since this project is not centrally concerned with generalizing findings, the lack of randomness is not a severe limitation. In fact, for studies interested in exploring variables and developing some concepts of the population's variance, Goode and Hatt suggest that selecting subjects by the procedure used has advantages when attempting to include ". . .extreme cases, sets of cases which seem contradictory, 'ideal' cases, etc.[4]

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[1] Mercer, op. cit., p. 20, emphasizes that such a definition does not take as a given the evaluations which produced the definition.

[2] A single criteria of retardation -- whether biological, psychological, or social -- is assumed to have only limited validity.

[3] Supra, pp. 8-11.

[4] William J. Goode and Paul K. Hatt, Methods in Social Research (New York: McGraw-Hill Book Co., Inc., 1952), p. 92. See also Hildreth Hoke McAshan, Elements of Educational Research (New York: McGraw-Hill Book Co., Inc., 1963), p. 66.

Of concern, however, is subject mortality and absenteeism. Table 4.1 shows both the number dropped from the study and the number of absentees at each testing. Table 4.2 breaks down the reasons for dropping subjects from the population.

TABLE 4.1. -- Sample

Tests	1	2	X	*3	4	5	6
Possible number	56	53	X	62	62	62	62
Number Dropped Since Previous test	0	3	X	16	0	0	0
Number Added	0	0	X	25	0	0	0
Absent	0	5	X	2	7	10	4
Total Tested (Includes Ss not placed)	56	48		68	60	57	64

* X - Placement in special class.

If there is reason to believe systematic absenteeism may be occurring in designs of this type, results are extremely suspect. The twenty-eight absences listed in Table 4.1 were shared by twenty-two subjects spread over all the cooperating districts. That it was the opening week of school may explain the small number of absences at three, and the relative increase in absences at four and five may be explained by the increase in subjects along with the typical jump in absenteeism associated with winter. Apparently, it is safe to assume systematic absenteeism did not occur.

Interest in subject mortality results from a concern with possibly systematic factors influencing withdrawals. In this regard the seventeen students who were either not placed, went to parochial school, or moved from the district are of particular concern. Of the ten not placed, it was learned that parents objected to special class placement in two instances and a principal objected in another; one student was retained in his grade while another was promoted. Four of the five who moved did so over the summer after the time parents would have learned of their child's selection for special education. But since the parents were not contacted, it is not known what influence this knowledge had on the decision to move. The same is true of those who switched to parochial schools. So, in the absence of more concrete data, no conclusions can be drawn regarding systematic differences between this group and the one under study.

TABLE 4.2. -- Reasons why certain subjects were not included in the final analysis.

Reason	Number
Not placed in special class	10
Moved from district	5
Attended Parochial school	2
Too immature	2
Personal problem	1
TOTAL	20

Table 4.3 breaks down the sixty two subjects included in the analysis according to school district, age, and sex. There are approximately twice as many males as there are females. And the mean age of the females, 12.05 years, is somewhat higher than the mean age of

TABLE 4.3.--Sample by district, age and sex.

Age	Sex	District							Sex Total		Age Total
		A	B	C	D	E	F*	G*	M	F	
7	M						2		2		2
	F									0	
8	M						2		2		3
	F						1			1	
9	M	1	1	2					4		4
	F									0	
10	M		5			1			6		11
	F		3			1	1			5	
11	M		1	2		1		1	5		5
	F									0	
12	M		4		2	2			8		10
	F	1	1							2	
13	M		5	1		4			10		20
	F		2		2	4		2		10	
14	M		1			1			2		3
	F					1				1	
15	M					3			3		4
	F					1				1	
Sex Totals	M	1	17	5	2	12	4	1	42		
	F	1	6	0	2	7	2	2		20	
District Totals		2	23	5	4	19	6	3			62

*F and G are actually parts of the same county district; F is a small city and G is a small town.

the males, 11.42 years.[1] The mean age of the entire group is 11.63 years. Two districts each supply approximately one third of the subjects: District B is an urban district and district E is a rural district. Districts A, C, and D are suburban areas while F is a small city and G is a small town. When the occupations of the subjects' fathers are assessed according to Duncan's socio-economic index,[2] the mean SES is 22.60.

Certain of the hypotheses and methods of analysis require two sub-samples: a longitudinal sample composed of those present at every testing and a post placement longitudinal group composed of those present at every testing after placement. With subjects from every cooperating district, the longitudinal group includes 12 males and 10 females whose mean age is 11.27 years. Also including subjects from each of the cooperating districts, the post placement longitudinal sample has 28 males and 17 females with a mean age of 11.65 years. The mean SES of the longitudinal sample is 21.65 and the mean SES of the post placement longitudinal sample is 21.61.[3]

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[1] The sex differentials by number and age parallels previous finding regarding the differential impact of retardation upon males and females in our society. See p. 24 n.1.

[2] Albert Reiss, Jr. et. al., Occupation and Social Status, (Glencoe, Illinois: The Free Press, 1961).

[3] Also computed from Duncan scale values. Ibid.

Methods of Analysis

The quadratic curve hypothesized for the GSCA means was tested for significance by using a test for trend involving repeated measures on the same subjects.[1] When using this technique an analysis of variance for single factor experiments having repeated measures is first performed to attain the MS residual which is used as the error term in the subsequent F test for trend. Then coefficients of orthogonal polynomials corresponding to linear and quadratic trends are applied to the experimental totals which leads to an F test of significance for the various trends. The test for linearity is first performed. Then the quadratic comparison is made to test whether or not it adds significant predictability to the linear trend.

To test the descending trends hypothesized for academic aspirations and academic expectations, the L statistic[2] was used. This statistic, which requires ordinal data, is specifically designed for testing ordered hypothesis. In a power comparison between the omnibus F test and the nonparametric L test, Boersma, DeJonge, and Stellwagen[3] found the L to be more powerful than the omnibus F test when a prior hypotheses suggest ordered relationships. The L is also used to test the hypothesis that teachers will be increasingly mentioned as ASO by EMR students over the course of their first year in the special class.

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[1] B.J. Winer, Statistical Principals in Experimental Design (New York: McGraw-Hill Book Company, 1962), pp. 132-135.

[2] Ellis Batten Page, "Ordered Hypotheses for Multiple Treatments: a Significance Test for Linear Ranks," Journal of the American Statistical Association, LVIII (March, 1963), 216-230.

[3] Frederick J. Boersma, James J. DeJonge, and Walter R. Stellwagen, "A Power Comparison of the F and L Tests," Psychological Review, LXXI (June, 1964), 503-513.

To test for change in EMR students' affective orientation to the special class, the Cochran Q statistic was used.[1] This statistic tests whether three or more sets of matched frequencies differ significantly among themselves and is particularly useful with dichotomous data in either an ordinal or nominal scale. It was also used to investigate changes in proportion of SO and ASO mentioned over the period under study.

In addition to the Q statistic, Kendall's[2] coefficient of concordance (W) was used to investigate change in the various categories of SO and ASO mentioned by EMR students. As a measure of the amount of agreement in sets of ranks, the W statistic provided a measure of overall change among ranks. An advantage of the W statistic is that it can be used in a X^2 formula to provide a significance test of agreement among ranks over time.

To test the hypothesis of no difference between ASO and SO mentioned by EMR students and by regular class students, the X^2 one sample test was used.[3] Using a goodness of fit technique, this X^2 tests whether significant differences exist between an observed number falling in a category and an expected number based on _a prior_ reasoning or data. Since expected frequencies were generally less than 20, Yates correction for continuity was used when computing each X^2.

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[1] Winer, _op.cit_., pp. 138-139.

[2] Sidney Siegel, _Nonparametric Statistics for the Behavioral Sciences_ (New York: McGraw-Hill Book Company Inc., 1956), pp. 229-238.

[3] _Ibid_., pp. 42-47.

CHAPTER V

ANALYSIS OF DATA

Hypotheses

Hypothesis I. The General Self-Concept-of-Ability (GSCA) of EMR students placed in special classes will be characterized by a quadratic trend over time.

Prior to discussing the significance test for this hypothesis, it would be helpful to examine the data summarized in Table 5.1 as it relates to the assumptions underlying the analysis. The assumption of equal population variance (SD^2) is required for the analysis of variance model used to test for the quadratic trend. To test for equal variance an F test was performed between the variance of the first June score, the greatest variance, and the March score, the smallest variance. The resulting F, 1.5, was not significant at the .05 level for a two tailed test. This lends support to the assumption of equal population variances.

TABLE 5.1. -- Means, standard deviations, skewness, and kurtosis of the longitudinal group's GSCA scores.

	June	Sept.	Dec.	March	June
Mean	20.68	23.95	24.77	25.82	24.36
SD	6.74	5.83	5.57	5.42	5.44
Skewness	-.29	-.59	-.05	-.27	-.11
Kurtosis	-1.07	-.76	-.49	-.45	-.23

The measures of skewness and kurtosis describe the shaped of the distribution. When measures of skewness equal zero a distribution is bilaterally symmetrical. The small negative skewness indices of

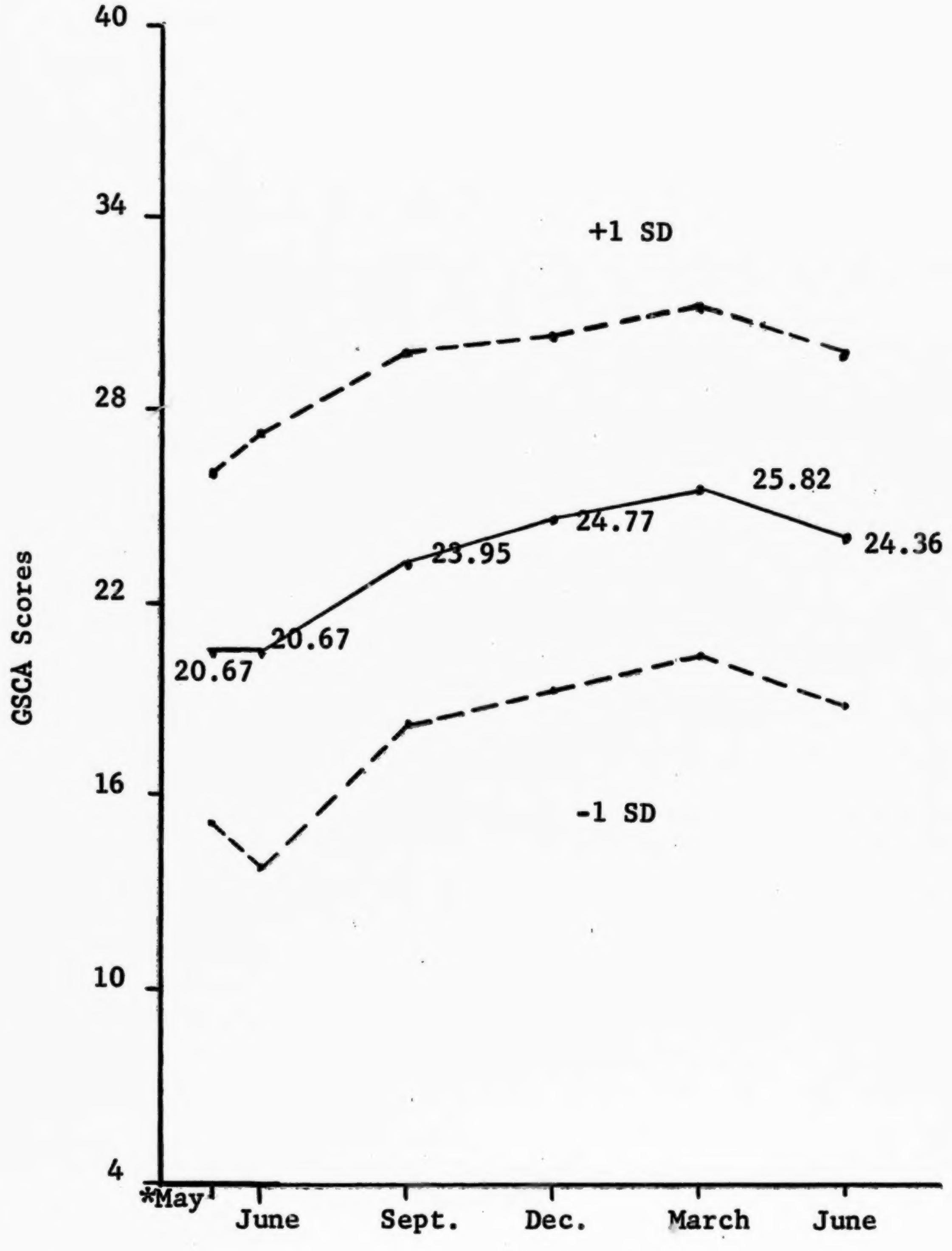
Table 5.1 indicate slightly negative distributions with scores piling somewhat toward higher values and the lower tail a bit extended. Kurtosis indices measure the way in which scores concentrate around the mean and spread out toward the tails of a symetrical distribution. The low negative values entered in Table 5.1 indicate a slightly platykurtic distribution wherein scores tend to pile up around the mean. Both measures indicate the form of the populations under study deviate somewhat from a normal distribution. But since the deviations are not severe and since they all have about the same form, the F test should be relatively unaffected.

Finally, since these data do not deviate significantly from the equal variance and normal distribution assumptions underlying the analysis of variance model, and because the single factor repeated measures analysis of variance model accounts for correlated observations, the test for trend involving repeated measures is appropriate.

Inspection of the GSCA means graphed in Figure 5.1 reveals that both linear and quadratic components provide a good fit to the data. To test whether the a priori hypothesis of a quadratic trend adds significant predictability beyond the linear component, an analysis of variance for single factor experiments having repeated measures must first be performed.

If significant, the F test indicates higher order components may exist. Also, the SS within persons between treatments provides a measure of the variation of difference dependent upon differences between treatment means, and the MS residual is used as the error term in the tests on trend. As seen in Table 5.2, F is significant beyond the .05 level. Since this indicates significant differences exist between means, a further test for quadratic trend was undertaken.

FIGURE 5.1.--EMR mean GSCA scores.



* Not used in the analysis.

$$H_r: \mu_2 \neq \mu_3 \neq \mu_4 \neq \mu_5 \neq \mu_6$$
$$H_o: \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$$

TABLE 5.2. -- Analysis of variance summary table for longitudinal group's GSCA scores on tests two through six.

Source of Variation	SS		df		MS	F
Between persons		2363.06		21		
Within persons		1631.20		88		
Time	330.31		4		82.58	5.33*
Residual	1300.89		84		15.49	
TOTAL		3994.26		109		

*Significant beyond the .05 level.

The tests for trend are summarized in Table 5.3. The linear component is significant beyond the .01 level. The quadratic component is also significant beyond the .01 level which indicates that, within the range of this study, the quadratic comparison does add significant predictability to that given by the linear trend. The quadratic hypothesis is accepted. As given in Table 5.2 the total variance

TABLE 5.3. -- Linear and quadratic tests for trend on longitudinal group's GSCA scores for tests two through six.

Tests	2	3	4	5	6				
Test Totals	455	527	545	568	536	c^2	C	MS	F
Linear	-2	-1	0	1	2	10	203	187.33	12.09*
Quadratic	2	-1	-2	-1	2	14	-203	133.78	8.64*

*Significant beyond the .05 level.

between times is 330.31. Of this, 321.11 is accounted for by linear and quadratic trends. The variation, therefore, due to higher order components is 9.20. When tested, the resulting F is less than one which indicates components higher than the second are not relevant.

It must be emphasized that while the quadratic hypothesis is supported, its direction is almost the exact opposite of that anticipated. It was reasoned the GSCA would fall and then rise while what happened, as seen in Figure 5.1, is that the GSCA rose and then fell. This reversal, of course, makes it meaningless to perform the originally planned individual comparison of means (i.e., $\mu_2 > \mu_3$; $\mu_4 > \mu_3$; and $\mu_2 > \mu_4$). Inspection of Figure 5.1 alone reveals the proposed model does not describe these data.

Refining the hypothesis in terms of the original model by specifying the points at which the GSCA would rise also becomes meaningless in light of the overall lack of correspondence between the a priori model and these data. But it may be fruitful to replicate this study to test the quadratic hypothesis and the $2 < 3 < 4 < 5 > 6$ ordering of GSCA means.

Before moving on, it might be in order to point out that to retain equal intervals between observations and because the two preplacement means were identical to the seventh decimal point, only the June data were used in the analysis. Moreover, the close correspondence between preplacement means argues that the effect noted in September is in fact a true effect.

Hypothesis II. The academic aspirations (AA) of EMR students place in a special class will be characterized by a descending linear trend over time.

H_r: $AA_2 > AA_3 > AA_4 > AA_5 > AA_6$

H_o: $AA_2 = AA_3 = AA_4 = AA_5 = AA_6$

Statistic: L test $\alpha = .05$

To compute the L statistic members of the population were first randomly assigned to one of four groups. Two groups had fifteen members and two groups had sixteen members. Then each group's mean AA level was computed and ranked for the various test periods. Because the L statistic computed from the rankings in Table 5.4 was not significant beyond the .05 level, the null hypothesis could not be rejected in favor of the research hypothesis.

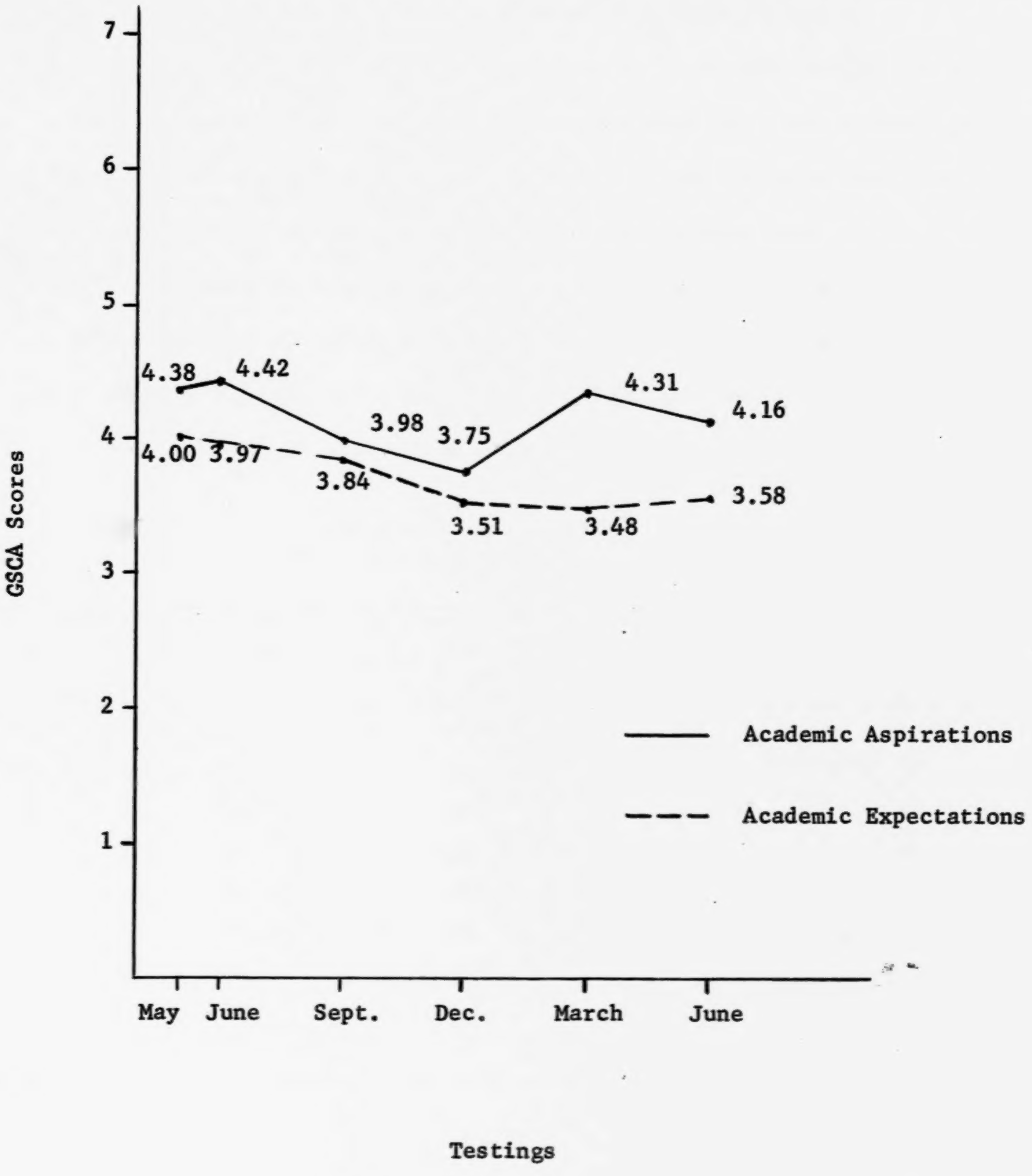
TABLE 5.4. -- Ranking matrix of EMR mean academic aspiration level over time (1 = highest to 5 = lowest).

Randomized Groups	Hypothesized Rankings June 1	Sept. 2	Dec. 3	March 4	June 5	L
I	2	1	5	3	4	178*
II	3	4	5	1	2	
III	4	5	2	1	3	
IV	1	3	5	4	2	

*Not significant beyond the .05 level.

Additional information related to this hypothesis may be found by studying the population means graphed in Figure 5.2. Notice that the hypothesized descending linear trend held only through December.

Figure 5.2. --Mean academic aspiration and academic expectation scores.



It then rose to its initial level but dipped slightly in June. But since all variation occurred within two standard errors of the mean of any score, true variation is unlikely.

It may be helpful to note that when asked what they would like to do, only a very small proportion of EMR students selected secretarial or trade school, the mean category. The bimodal distribution of the plan level selected may be noted in Table 5.5. Level three and level six are the most popular choices with levels two and seven close behind. When comparing the first June responses with responses after special class placement, notice that levels three and six fluctuate only slightly while the proportion of those selecting level seven decreases and the proportion choosing level five increases.

TABLE 5.5. -- Proportion of EMR students selecting each plan level when asked how far in school they would really like to go.

Plan Level	June	Sept.	Dec.	March	June
1 (Quit now)	.06	.05	.15	.04	.07
2 (Some H. S.)	.12	.20	.09	.17	.14
3 (Grad. H. S.)	.30	.33	.36	.25	.27
4 (Trade School)	.03	.02	.02	.02	.00
5 (Some College)	.06	.12	.11	.17	.20
6 (Finish College)	.18	.15	.20	.20	.18
7 (Graduate School)	.24	.15	.07	.15	.14
N =	33	61	55	52	56

Hypothesis III. The academic expectations (AE) of EMR students placed in special classes will be characterized by a descending linear trend over time.

H_r: $AE_2 > AE_3 > AE_4 > AE_5 > AE_6$

H_o: $AE_2 = AE_3 = AE_4 = AE_5 = AE_6$

Statistic: L test $\alpha = .05$

The grouping and statistical procedures used for this hypothesis are identical to those used in the previous hypothesis. Like the previous hypothesis, the L computed from the rankings in Table 5.6 was not significant beyond the .05 level so that the null hypothesis could not be rejected in favor of the research hypothesis.

TABLE 5.6. -- Ranking matrix of EMR mean academic expectation level over time (1 = highest to 5 = lowest)

Randomized Groups	Hypothesized Rankings June 1	 Sept. 2	 Dec. 3	 March 4	 June 5	L
I	1	2	5	4	3	187*
II	1	4	5	3	2	
III	5	1	2	3	4	
IV	1	5	4	3	2	

*Not significant beyond the .05 level.

The AE population means have also been graphed in Figure 5.2. Like AA, AE show a descending linear trend through December followed by a rise. But the rise in AE is not as sharp as in AA; it neither attains its initial level nor shows a slight drop in June. Also, the preplacement means are more than two standard errors larger than the March mean. And, as expected, AE varied with AA while remaining at a lower level.

Also, similar to AA is the bi modal distribution of AE scores which can be noted by referring to Table 5.7. Again, levels three and six are the most popular choices followed by le levels five and two. But level seven shows a sharp drop in the proportion of students choosing it. Other interesting changes are the decreases in level one during March and June coupled with the increase in the overall proportion of students stating they expect to go to college for awhile.

TABLE 5.7. -- Proportion of EMR students selecting each plan level when asked how far in school they think they are really going to go

Plan Level	June	Sept.	Dec.	March	June
1 (Quit Now)	.12	.12	.16	.06	.07
2 (Some H. S.)	.15	.12	.20	.21	.14
3 (Grad. H. S.)	.33	.33	.42	.39	.36
4 (Trade School)	.00	.07	.02	.06	.00
5 (Some College)	.03	.07	.13	.15	.16
6 (Finish College)	.21	.26	.16	.10	.16
7 (Graduate School)	.18	.05	.04	.04	.05
N =	33	61	55	52	56

Hypothesis IV. There will be a change over time in the percentage of positive replies by first year EMR students to the question, "How do you like this class?"

H_r: $M_3 \neq M_4 \neq M_5 \neq M_6$

H_o: $M_3 = M_4 = M_5 = M_6$

Statistic: Cochran Q Test $\alpha = .05$

While a slight quadratic trend can be noted when examining the data presented in Table 5.8, the change was not sufficient to reject the null hypothesis in favor of the research hypothesis.

TABLE 5.8. -- Number of EMR students giving a positive reply to the question: "How do you like this class?"

	Tests				
	Sept.	Dec.	March	June	Q
Number of positive answers (possible = 45)	43	41	40	45	7.70*

Because statistical treatment of the hypothesis required dichotomous data, interviewers were instructed to pursue noncommital replies until a clearly positive or negative judgment was made. This almost always resulted in positive judgments which is reflected in the high proportions reported in Table 5.8.

Consequently, to avoid the possibly biasing effects of the procedure used, at the conclusion of the final interview another question was asked: "Pretend it's last year, if it were up to you what class would you go to, would you go to the class you are now in or would you pick a different class?" Twenty four EMR students said they would elect their special education classroom while twenty one said they would choose another class. This proportion is markedly different from the proportion reported as liking the special education classroom. Apparently, if method be ignored, a number of EMR students like their special class but would go to another room if the decision were up to them.

This sample was also asked the reason for their choice. Of the twenty four who chose the special class, five replied they just plain "like it", four mentioned "friends," and the rest said either they could do the work better or they had fewer problems getting along. A sample of typical replies is: "Don't have as many problems," "get more done," "work isn't as hard," "can do more," and "can go to the bathroom here." Of the twenty one who would choose a different class, four gave no reason, six wanted to be in a "regular grade," and three did not like being the butt of derogatory remarks. The rest of the reasons were highly individual. They ranged from "the class is too rough" and "catch up with my sister" to "so we can use the right books" and "closer to home."

Four additional questions were also asked. Designed to develop further insight into the EMR's definition of the special class, the questions investigated both the labels with which the EMR defined their class and the labels he perceived others attach to the class. Both the questions and their answers are presented in Table 5.9. When asked what class they were in, nearly half

TABLE 5.9. -- Categorized responses to four questions dealing with labels applied to the special class for EMR students.

Question*	Answer				
	Teacher	Grade	Special Education	Derogatory	?
I	10	22	11	1	2
II	3	7	21	1	12
III	3	5	17	6	10
IV	2	8	6	12	14

* I What class are you in?
II What do you call your class?
III What do other kids in your room call this class?
IV What do kids from other rooms call your class?

replied with a grade level - seventh grade, eighth grade, etc. -- and almost all the rest said either "special ed" or the teacher's name. But when asked what they called the class, nearly half said "special ed." with several others replying "I don't know." "Special ed." and "I don't know" also were the two most frequent choices for the third question. Interestingly, a few derogatory definitions like "fruit room" or "stupid class" appeared with this question. Finally, in reply to "What do kids from other rooms call your class?" the number of derogations doubled and "I don't know" remained at high level. The other categories were not mentioned as frequently.

Two observations may be made about this data. Often one student would report derogatory labels while other members of the same class would say nothing. But interviewers were instructed to accept whatever was said and engage in no probing. Also, all interviewers reported that while students seldom appeared uncomfortable answering questions from the regular schedule, they almost always appeared uncomfortable when answering these questions. Most of the interviewers felt the students were being defensive; they were not reporting derogations with which they were familiar. It might be concluded that while EMR students do not themselves define the special class in derogatory terms, they are aware that others attach unfavorable labels to the class.[1]

Hypothesis V. There will be a change over time in the percentage of positive replies by first-year EMR students naming the special class in reply to the question, "Would you rather be in this class or the one you were in last year?"

H_r: $3 \neq 4 \neq 5 \neq 6$

H_o: $3 = 4 = 4 = 6$

Statistic: Cochran Q test $\alpha = .05$

The findings presented in Table 5.10 indicate that while a slight increase in the number of students preferring the special class occurred between September and June, the change was not extensive enough to reject the null hypothesis in favor of the research hypothesis.

Students were also asked why they chose one class rather than the other. Table 5.11 lists the reasons given by those who preferred the special class. Over the course of their first year in

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[1] See Appendix E for a sample of such labels and for some brief unsolicited comments regarding the special class and interaction with others.

TABLE 5.10. -- Number of EMR students naming this class in reply to the question: "Would you rather be in this class or the one you were in last year?"

	Tests				
	Sept.	Dec.	March	June	Q
Number of students naming "this class" (possible = 45)	34	37	38	38	2.87*

*P < .50 is not significant beyond .05 level.

TABLE 5.11. -- Percent of students mentioning various reasons for choosing the special class rather than their previous class.

Reason Given	Time			
	Sept. N = 34	Dec. N = 37	March N = 38	June N = 38
Teacher	28.6	32.4	34.2	28.9
Friends	8.6	16.2	15.8	21.1
Subject Matter	28.6	37.8	31.6	44.7
Higher Grade	17.1	10.8	13.2	2.6
Don't Know	17.1	2.7	5.3	2.6

a special class the percent of students naming teachers varied only slightly while the per cent naming "subject matter" showed an upward trend. Between September and December the number naming "friends" nearly doubled as would be expected since it takes time to develop friendships. Those giving "don't know" as the reason for preferring the class decreased to less than one fifth the original figure. In both cases, the December level was roughly maintained for the remainder of the year. From September through March the number giving "higher grade" as the reason for their choice remained at approximately the same level, but in June the category dropped to less than a quarter of the previous level. It may be that the EMR student finally realized that special education is not in fact a "higher grade." Whether this is true is not determined by these data.

Overall, liking the teacher and subject matter are the most frequently mentioned reasons for selecting the special class. Actually, the categories overlapped considerably: for example, liking the teacher was often followed by such statements as "she helps me more" and "she has more time to help me." And subject matter statements were often coupled with the teacher: "It's easier because she helps a lot." "I can do more because she shows me things."

Hypothesis VI. Those named as significant others by EMR students do not differ from those named by a population of regular class school children.

H_r: $f_1 \neq f_2$

H_o: $f_1 = f_2$

Statistic: X^2 one sample test with Yates correction for continuity. $\alpha = .05$

To test this hypothesis the number of 13-15 year old EMR students who mentioned at least one person in each category at the final June testing was compared to an expected number derived from the frequency of mention by Brookover's seventh, eighth, and

TABLE 5.12. -- Summary table of X^2 comparisons of observed mentions of significant others by 13-15 year old EMR students and expected mentions based on a regular class population. (N = 24)

Significant Others	Observed	Expected	X^{2a}	Probability of Occurring by Chance Under H_o
Parents	23	23	.000	.99
Teachers	6	10	2.100	.15
Other School People	2	2	.000	.99
Adult Relatives	11	12	.042	.84
Age Level Relatives	13	16	1.171	.29
Peers, Same Sex	5	12	7.042*	.01
Peers, Opp. Sex	4	5	.063	.80
Local Adults	1	5	3.095	.08

[a] with df = 1, $X^2 \geq 3.84$ has a probability of occurring under H_o of $p < .05$

*significant beyond the .05 level.

ninth grade regular class students.[1] Thus, eight hypotheses were tested, each taking the above statistical form.

Note that the substantive hypothesis when expressed in statistical form becomes the null hypothesis, and, thus, for support depends upon the inability of the statistic to reject the null under a specified decision rule -- in this case $\alpha = .05$. While the classic practice is followed here, to give a clearer picture of the nature of agreement among the various mentioned categories. Table 5.12 presents the expected and observed mentions, the resulting X^2, and the probability of X^2 occurring by chance under H_o.

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[1] See Appendix D for Brookover's totals and proportions.

Overall, only one category, "peers same sex," is significant beyond the .05 level. For that hypothesis the null of no difference was rejected in favor of the alternative of difference. Note that the observed was less than the expected. In the remaining seven categories, even though the observed is consistently less than the expected, X^2 was not significant beyond the .05 level so that the null could not be rejected.

At the .05 level for these data the frequency with which 13-15 year old EMR students mention parents, teachers, other school people, adult relatives, age level relatives, peers opposite sex, and local adults does not differ from those of regular class students. It is concluded that with the exception of same sex peers, the significant others named by 13-15 year old EMR students do not differ from the significant others of a regular class student population.

Hypothesis VII. Those named as academic significant others by EMR students do not differ from those named by a normal population of school children.

H_r: $f_1 \neq f_2$

H_o: $f_1 = f_2$

Statistic: X^2 one sample test with Yates correction for continuity. $\alpha = .05$

The grouping and statistical procedures used to test this hypothesis are identical to those utilized in the previous hypothesis.

Namely, eight hypotheses, each taking the above statistical form, were tested to compare the number of 13-15 year old EMR students who mentioned at least one person in an academic significant other category with an expected number derived from the frequency of mention by Brookover's seventh, eighth and ninth grade regular class students.[1] Again, the substantive hypothesis became the null hypothesis dependent for support upon an inability to reject the null at $\alpha = .05$. So to give a clearer picture of the extent of agreement between categories, Table 5.13 includes the observed and expected mentions, the resulting X^2, and the probability of the X^2 occurring by chance under H_o. Since for each category the resulting X^2 was not large enough to be significant beyond .05,

TABLE 5.13. -- Summary table of X^2 comparisons of observed mention of academic significant others by 13-15 year old EMR students and expected mentions based on a regular class population. (N = 24)

Academic Significant Others	Observed	Expected	X^{2a}	Probability of Occurring by Chance Under H_o
Parents	24	23	.261	.62
Teachers	17	15	.400	.52
Other School People	5	7	.453	.50
Adult Relatives	10	9	.045	.83
Age Level Relatives	7	6	.056	.81
Peers, Same Sex	3	3	.000	.99
Peers, Opp. Sex	1	2	.136	.71
Local Adults	5	2	3.409	.07

[a] With df = 1, $X^2 \geq 3.84$ has a probability of occurring under H_o of $p < .05$.

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[1] See Appendix D for Brookover's totals and proportions.

not one null hypothesis of no change could be rejected in favor of the alternative of change. Note that only in one category, local adults, where the observed exceeded the expected, did X^2 approach the .05 level of significance. It is concluded that for these data the academic significant others named by 13-15 year old EMR students do not differ from the academic significant others of a regular class student population.

Hypothesis VIII. As they pass through their first year in the special class, an increasing proportion of EMR students will name teachers as academic significant others.

H_r: $P3 < P4 < P5 < P6$

H_o: $P3 = P4 = P5 = P6$

Statistic: L Test $\alpha = .05$

To compute the L statistic, the 45 members of the post placement longitudinal group were first randomly assigned to one of three groups. Then the total number of students in each group who mentioned at least one teacher as an academic significant other was totaled and ranked across test periods. Since the L computed from the ranking matrix presented in Table 5.14 is significant beyond the .05 level, the null hypothesis is rejected

TABLE 5.14. -- Ranking matrix of EMR students mentioning at least one teacher as an academic significant other (1 = least mentions to 4 = most mentions)

Random Replications	Hypothesized Ranking Sept. 1	 Dec. 2	 March 3	 June 4	L
I	3	1	2	4	
II	2	1	3	4	85*
III	1	3	2	4	

*L = 85 is significant beyond the .05 level.

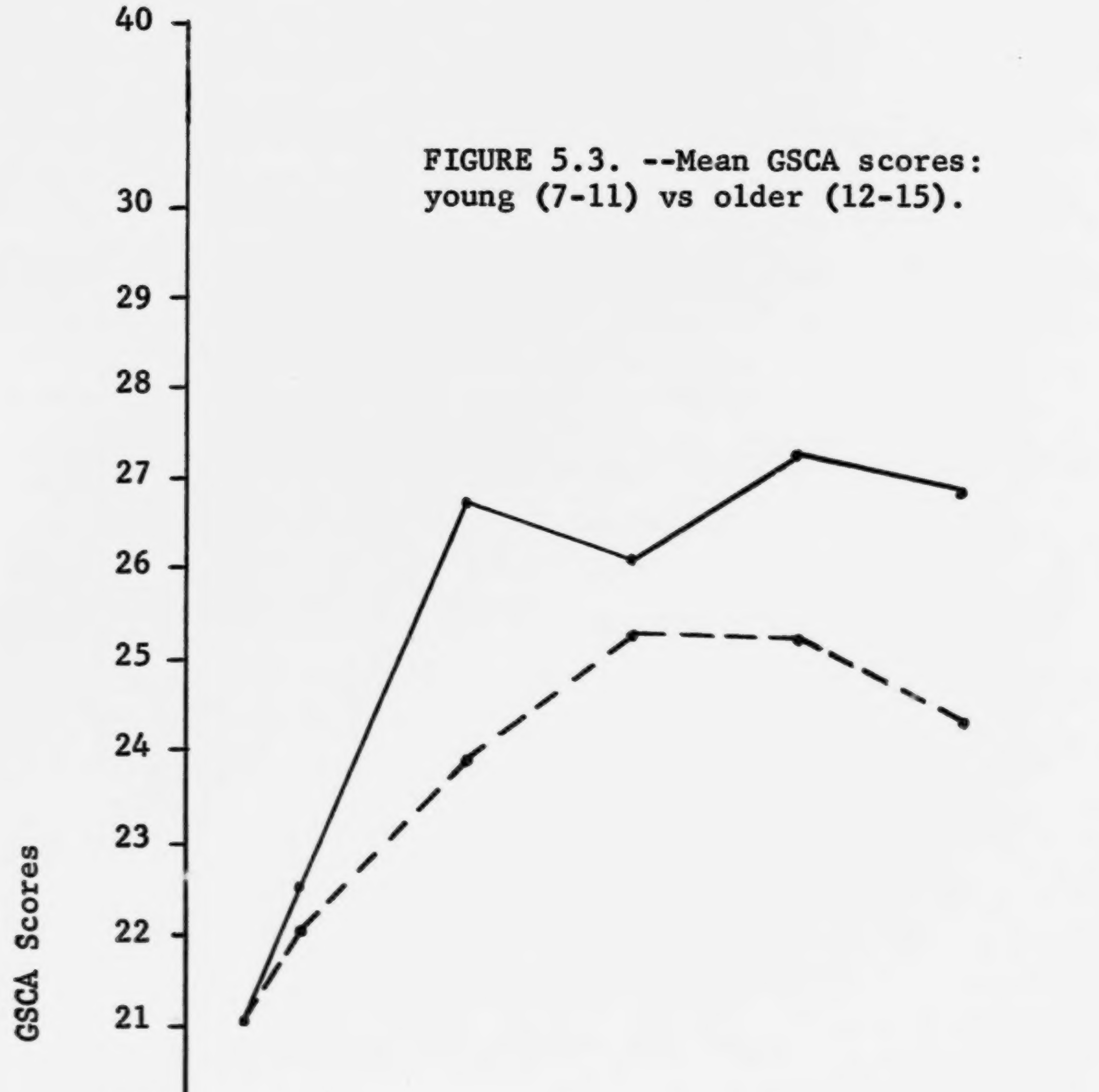


FIGURE 5.3. --Mean GSCA scores: young (7-11) vs older (12-15).

in favor of the research hypothesis. The overall hypothesized relationship was strong enough to schieve significance even though the total number of teachers mentioned in December, 22, was less than the number mentioned in September, 26.

Questions

Question I. Are any differences in reaction to special class placement reflected by varying changes in the GSCA pattern if EMR students are compared according to each of the following: age at placement, sex, socio-economic status, school system, and initial GSCA score?

To investigate this question, for each contrast the means are graphed to provide a visual comparison while the number of subjects, means, standard deviations, and standard error of the means are tabled to provide insight into the "true" extent of variation. In addition to general comparisons, specific contrasts will be made between GSCA mean scores at the beginning of the study, at placement and at the end of the year.

Age: As seen in Table 5.15 and Figure 5.3, while initial GSCA scores of the young and the older groups were very close, the younger EMR students' GSCA score rose sharply at placement followed by an erratic although overall positive trend. The older students' scores show a gradual rise to a high in December followed by a slight drop through June. Both at placement and at the end of the year, more than two standard errors separated the mean GSCA scores.

TABLE 5.15. -- N, GSCA means, standard deviations, and standard error of the means of young (7-11) and older (12-15) first year EMR students

	May	June	Sept.	Dec.	March	June
Young						
N	16	15	26	21	24	24
Mean	21.13	22.47	26.73	26.10	27.21	26.92
SD	6.07	6.29	6.39	6.85	5.74	5.72
SE_M	1.52	1.62	1.25	1.49	1.17	1.17
Older						
N	21	18	36	34	28	33
Mean	21.10	22.00	23.97	25.26	25.18	24.39
SD	4.93	6.45	4.70	4.26	3.91	4.15
SE_M	1.08	1.52	.78	.73	.74	.72

Sex: The initial GSCA level of the females shown in Table 5.16 and Figure 5.4 was somewhat lower than the males, but it rose rapidly until in December and March it was higher than the males' score and only slightly lower at the end of the year. The GSCA level of the males rose at placement in the special class and kept the same level through the remainder of the year. Both at placement and at the end of the year, the GSCA scores of the groups were within one standard error of each other.

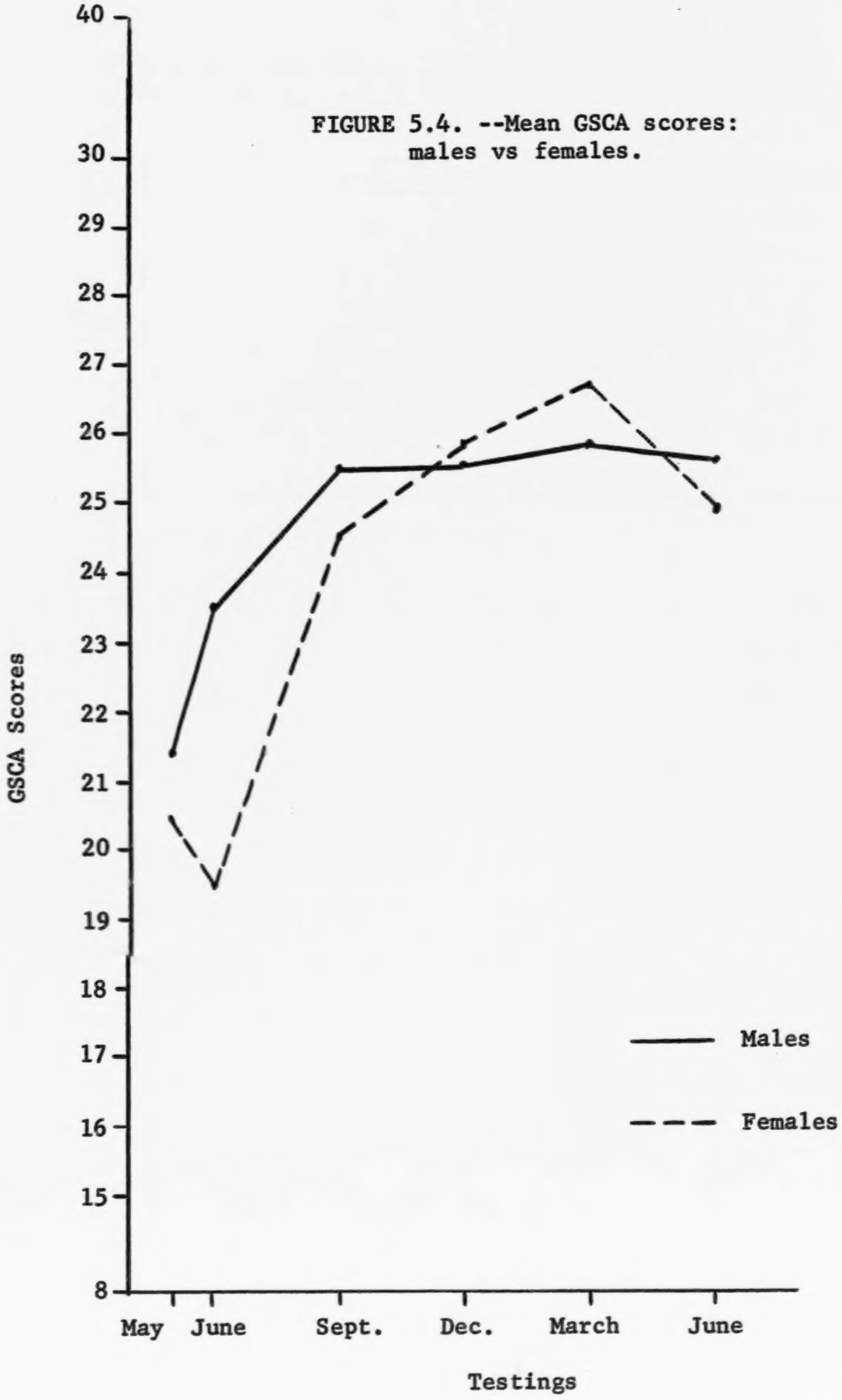


FIGURE 5.4. --Mean GSCA scores: males vs females.

TABLE 5.16. -- N, GSCA means, standard deviations, and standard error of the means of male and female first year EMR students

	May	June	Sept.	Dec.	March	June
Male						
N	25	23	43	37	35	38
Mean	21.44	23.39	25.42	25.46	25.83	25.71
SD	5.30	5.52	5.84	5.59	5.26	5.55
SE_M	1.06	1.15	.89	.92	.89	.90
Female						
N	12	10	19	18	17	19
Mean	20.41	19.50	24.47	25.83	26.71	24.95
SD	5.68	7.37	5.09	4.97	4.15	3.70
SE_M	1.64	2.33	1.17	1.17	1.00	.85

SES: To form the comparison groups, Brookover's cutting points for determining socio-economic levels from Duncan Scale values were used. But because of the preponderance of students from low SES groups, only two groups were formed: a low SES group composed of those whose fathers' occupation rated 29 or below on the Duncan Scale and a high SES group composed of all those whose fathers' occupation rated 30 or higher on the Duncan Scale. While the mean SES of the high group was 51.16, the mean SES of the low group was 15.74.

The means in Table 5.17 and Figure 5.5 are almost identical and have highly similar trends throughout the year. Furthermore, the means don't vary by as much as one standard error either at the beginning of the study, at placement, or at the end of the year.

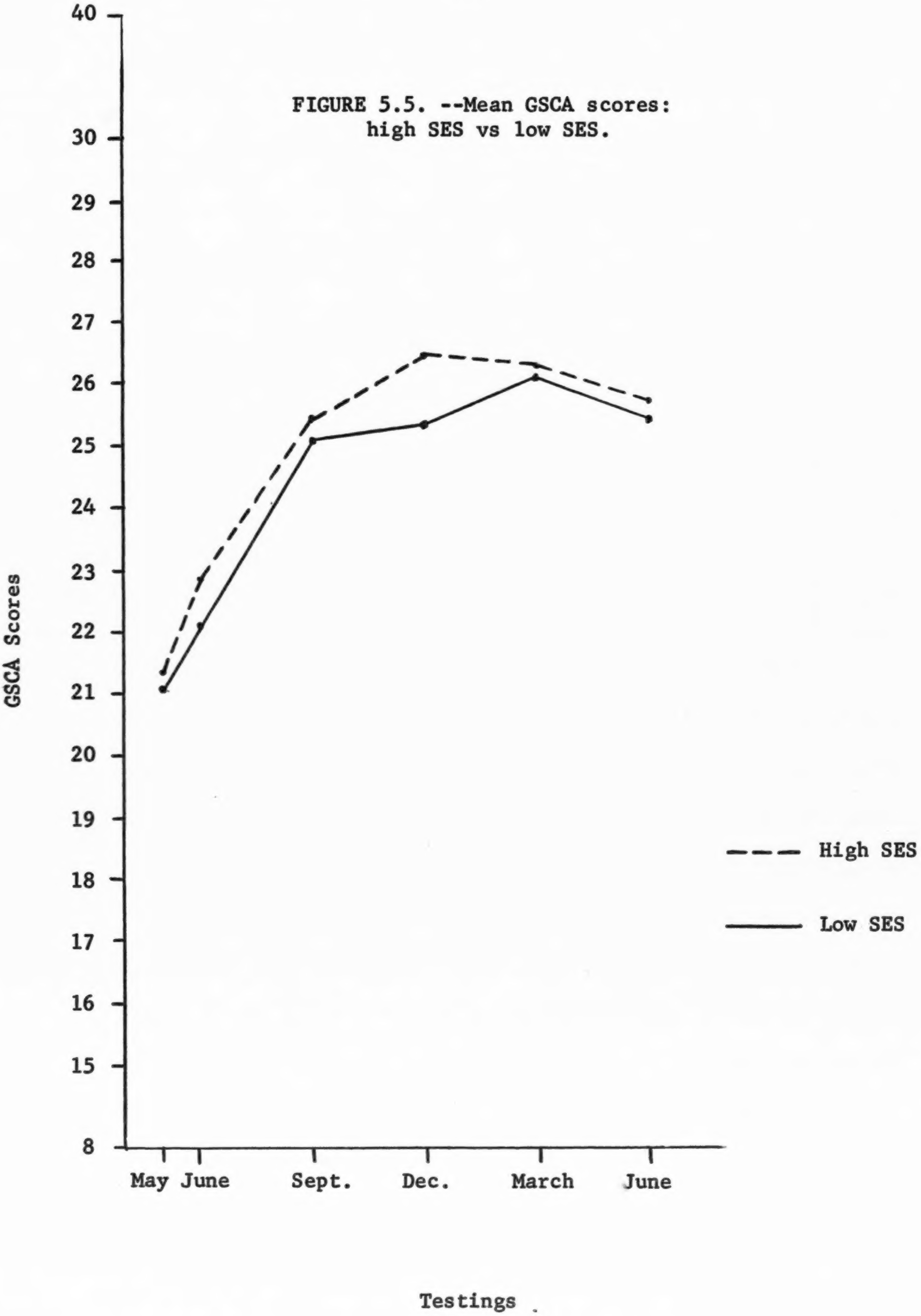


FIGURE 5.5. --Mean GSCA scores: high SES vs low SES.

TABLE 5.17. -- N, GSCA means, standard deviations, and standard error of the means of high SES and low SES first year EMR students

	May	June	Sept.	Dec.	March	June
High						
N	6	6	12	11	11	12
Mean	21.33	22.83	25.41	26.45	26.27	25.67
SD	4.41	6.27	5.58	5.77	5.71	4.81
SE_M	1.80	2.56	1.61	1.74	1.72	1.39
Low						
N	31	27	50	44	41	45
Mean	21.06	22.07	25.06	25.36	26.07	25.40
SD	5.60	6.40	5.65	5.29	4.73	5.08
SE_M	1.00	1.23	.80	.80	.74	.76

Area: The contrasts between the GSCA means of a rural and an urban group of EMR students can be seen in Table 5.18 and Figure 5.6. The urban group's initial GSCA level was somewhat lower than the rural group's level, but it rose sharply at placement and then showed a gradually positive trend. By contrast, the rural group's GSCA rose only slightly and then declined to a somewhat lower level. Although the urban GSCA mean was slightly more than one standard error lower than the rural group's mean at the beginning of the study, in September it was nearly two standard errors higher, and by the end of the year slightly more than three standard errors separated the means.

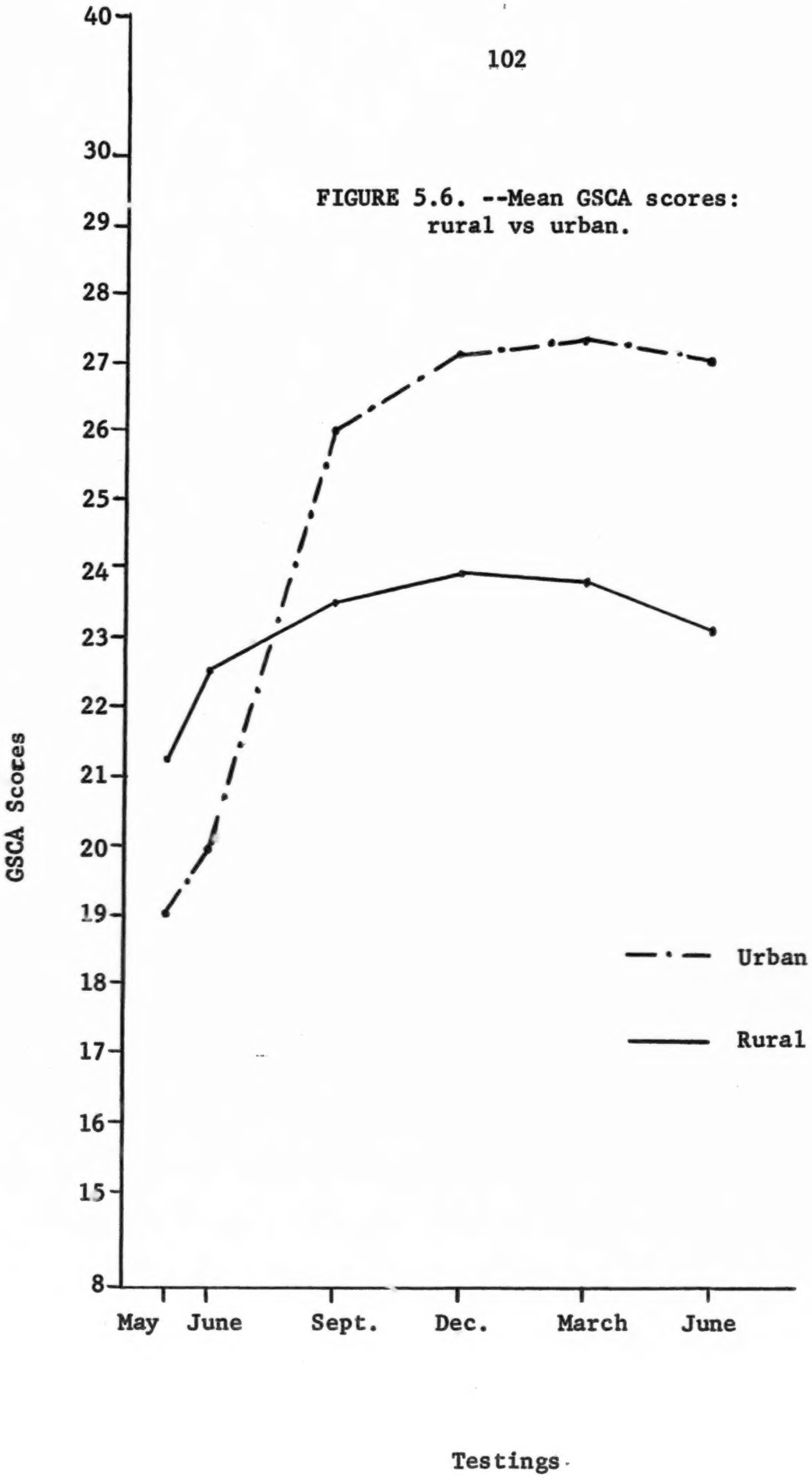


FIGURE 5.6. --Mean GSCA scores: rural vs urban.

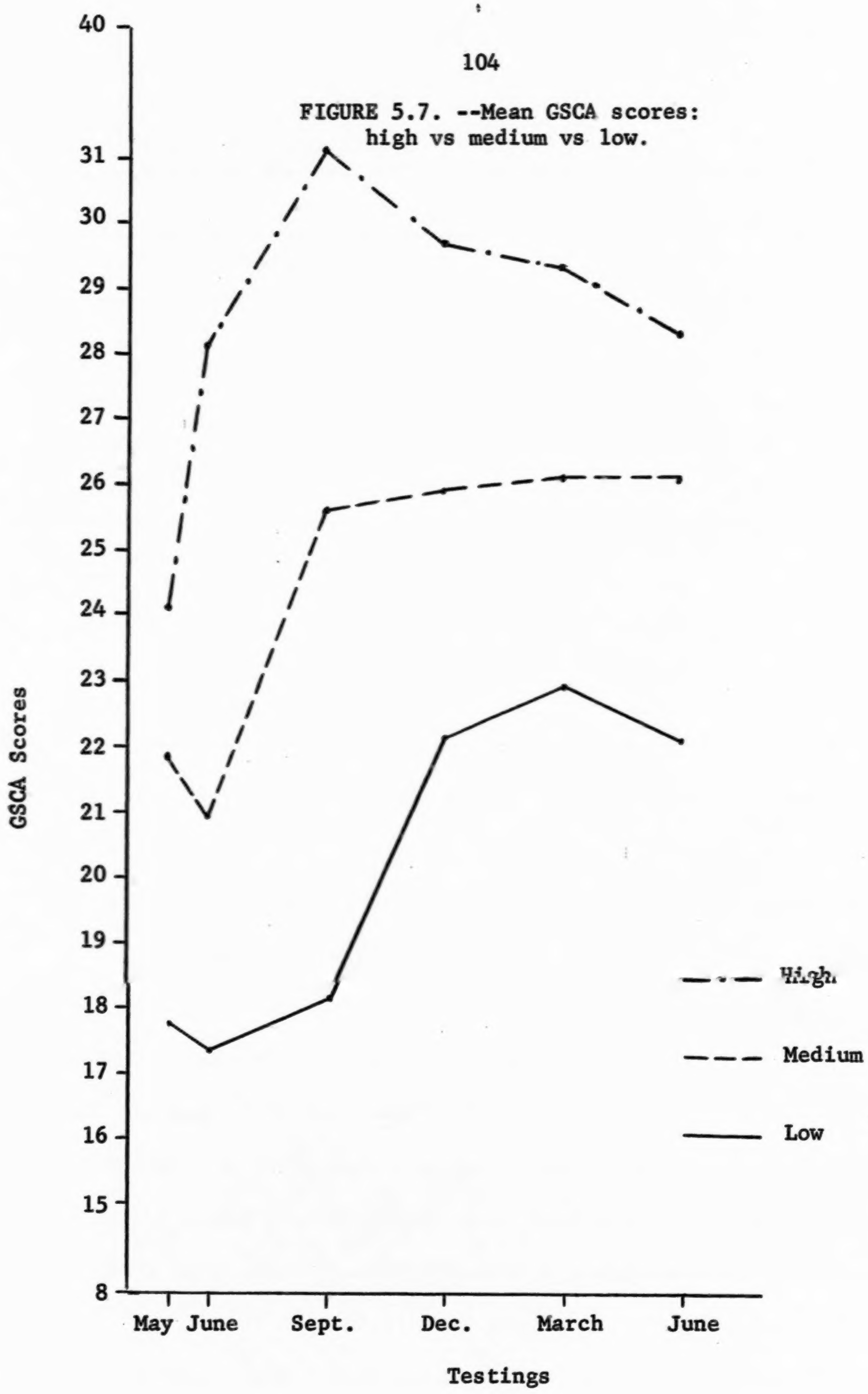
TABLE 5.18. -- N, GSCA means, standard deviations, and standard error of the means of urban and rural first year EMR students

	May	June	Sept.	Dec.	March	June
Urban						
N	7	7	23	18	19	20
Mean	19.00	19.86	26.00	27.06	27.37	27.05
SD	5.54	6.64	6.63	6.25	4.94	5.84
SE_m	2.09	2.50	1.39	1.47	1.13	1.31
Rural						
N	12	8	19	19	15	18
Mean	21.25	22.50	23.47	23.95	23.80	23.11
SD	3.72	5.13	4.46	3.14	3.08	3.82
SE_m	1.07	1.81	1.02	.72	.80	.90

GSCA: To make the GSCA contrast groups, subjects' initial GSCA scores were arranged in descending order. The top quartile was designated as the high group, the middle two quartiles became the middle group, and the bottom quartile formed the low group.

The means in Table 5.19 and Figure 5.7 present several interesting contrasts. First, all three groups show an increase of about four points from the first test to the last. But while most of the increase for the low and medium groups occurred after placement, for the high group, the increase took place before placement. Second, three quite different trends are evident: The high group experienced an early rise to a peak in September followed by a decline for the remainder of the year; the middle group jumped sharply at placement and showed little variation for the rest of

FIGURE 5.7. --Mean GSCA scores: high vs medium vs low.



the year; and the low group rose gradually to a high in March followed by a slight decline. Third, even though different trends are noted and final scores are higher than initial scores, minimal pre-post differences between the three SCA level groups are seen when first and last tests are compared. The three groups retained their original differences.

TABLE 5.19. -- N, GSCA mean scores, standard deviations, and standard error of the means of first-year EMR students divided according to high, medium and low initial GSCA scores

	May	June	Sept.	Dec.	March	June
High						
N	12	11	19	14	16	17
Mean	24.08	28.10	31.16	39.71	29.38	28.35
SD	4.12	2.17	2.69	4.07	3.10	4.97
SE_m	1.19	.65	.62	1.09	.78	1.21
Medium						
N	12	12	25	24	22	23
Mean	21.83	20.92	25.60	25.63	25.82	25.83
SD	4.86	5.79	1.71	5.06	4.32	3.95
SE_m	1.40	1.67	.34	1.03	.92	.82
Low						
N	13	10	18	17	14	17
Mean	17.69	17.30	18.11	22.12	22.86	22.06
SD	5.21	4.79	2.72	4.31	5.32	4.41
SE_m	1.44	1.51	.64	1.05	1.42	1.07

In summary: (1) little variation in GSCA pattern occurred over the first year in a special class when students were classified according to sex or SES: (2) greater variation occurred between young (7-11) and older (12-15) age groups: (3) considerable variation occurred between an urban and a rural area. Also, high, medium, and low initial GSCA groups exhibited varying trends over the course of the year, but differences between groups remained approximately the same for the first and final tests.

Question II. Are there any changes in the identified significant others associated with special class placement?

To answer this question the proportions of EMR students naming at least one person in a category were ranked for each test period from the June prior to placement through their first year in the special class. Then the Kendall coefficient of concordance (W) was computed to measure the amount of agreement among the ranks. The high value of W, . 913, shown in Table 5.20 indicated high agreement among ranks.

TABLE 5.20. -- Ranking matrix of the proportion of EMR students naming at least one person in a category as a significant other from June prior to their initial special class placement through their first year in the special class

	Parents	Age Level Rel.	Teachers	Adult Rel.	Local Adults	Other School People	Peers, Same Sex	Peers, Opp. Sex	W
June	1	2	3	4	5	6	7	8	
Sept.	1	2	4	3	7	7	5	7	.913
Dec.	1	2.5	4.5	2.5	6	8	4.5	7	
March	1	3	4	2	7.5	7.5	5	6	
June	1	2	3.5	3.5	8	7	5	6	
Totals	5	11.5	19.0	15.0	33.5	35.5	26.5	34	

The W statistic can also be used to compute a X^2 as a further test of agreement among ranks.

H_r: $P > 0$

H_o: $P = 0$

Statistic: $X^2 = K(N-1)W$

$X^2 = 31.96$ $\alpha = .05$

With seven degrees of freedom, $X^2 \geq 31.96$ has a probability of occurring under H_o of $p < .001$. H_o can be rejected in favor of H_r, and it can be concluded that the ranked agreement in categories named as significant others by first-year EMR students is greater than it would be by chance.

A shortcoming of the W statistic, however, is that changes in proportions among subsets may be obscured if they are not reflected in changes in ranks. To allow for this drawback, a Cochran Q was computed for each category to test the null hypothesis that the proportions of mention were the same for all test periods against the alternative hypothesis that they differed among test periods. Because matched groups are necessary for the Q statistic, the longitudinal group and the post-placement longitudinal group were the samples used. Consequently, for the longitudinal group the hypothesis were:

H_r: $P_1 \neq P_2 \neq P_3 \neq P_4 \neq P_5 \neq P_6$

H_o: $P_1 = P_2 = P_3 = P_4 = P_5 = P_6$ $\alpha = .05$

And for the post placement longitudinal group they were:

H_r: $P_3 \neq P_4 \neq P_5 \neq P_6$

H_o: $P_3 = P_4 = P_5 = P_6$ $\alpha = .05$

Table 5.21 summarized the results of each Q. Note that only the category "Teachers" had a Q sufficiently high to cause the null

TABLE 5.21. -- Q values of EMR students' responses to the question: "Who are the people you feel are important in your life?"

Response Categories	Longitudinal Group[a] N = 22	Post Placement Longitudinal Group N = 45
Parents	7.59	3.86
Teachers	8.51	9.35*
Adult Relatives	4.41	3.64
Peer Same Sex	6.18	3.16
Age Level Relatives	2.67	6.05
Other School People	3.70	.60
Local Adults	5.00	3.35
Peer Opposite Sex	.81	1.57

[a] df = 5; reject H_o at $p < .05$ if $Q \geq 11.07$

*Significant beyond the .05 level

to be rejected in favor of the alternative. Of the 45 students in that group, 9 mentioned at least one teacher in September, 7 did so in December, 16 in May, and 14 in June.

Judging from both the W statistic which showed high agreement among the ranked categories over time and the Q statistic which with one exception failed to demonstrate significant differences among the proportion of students mentioning the various categories over time, it is concluded that little change in identified significant others is associated with special class placement.

Question III. Are there any changes in the identified academic significant others associated with special class placement?

The techniques used to answer this question are the same as those used with the previous significant others question. Table 5.22 shows the ranking matrix of academic significant others named by EMR students over the one-year period of this investigation. As was true previously, the high value of the computed W indicated a high level of agreement among ranks.

TABLE 5.22. -- Ranking matrix of academic significant others names by EMR students from a time prior to special class placement through their first year in the special class

	Parents	Teachers	Adult Rel.	Peer Same Sex	Age Level Rel.	Other School People	Peer opp. Sex	Local Adults	W
June	1	2	3	4	5	6	7	8	
September	1	2	4	5	6	3	7	8	.929
December	1	2	3	4	5.5	5.5	7	8	
March	1	2	3	6	5	4	7	8	
June	1	2	3	6	4	5	8	7	
Totals	5	10	16	25	25.5	23.5	36	39	

When used to compute a X^2 statistic for testing the null that the observed value of W does not differ from zero, the resulting X^2, 32.5, with seven degrees of freedom has a probability of occurring under H_o of $p < .001$. Therefore, H_o is rejected in favor of H_r, and it can be concluded, with considerable assurance, that the ranked agreement in categories named as academic significant others by first-year EMR students is greater than it would be by chance.

H_r: $P > 0$

H_o: $P = 0$

Statistic: $X^2 = K(N-1)W$ $\alpha = .05$

The Q values computed to test the null hypothesis that the proportions of mention were the same for all test periods against the alternative that they differed over time are summarized in Table 5.23. Again, the hypotheses for the longitudinal group were:

H_r: $P_1 \neq P_2 \neq P_3 \neq P_4 \neq P_5 \neq P_6$

H_o: $P_1 = P_2 = P_3 = P_4 = P_5 = P_6$ $\alpha = .05$

And for the post placement longitudinal group they were:

H_r: $P_3 \neq P_4 \neq P_5 \neq P_6$

H_o: $P_3 = P_4 = P_5 = P_6$ $\alpha = .05$

As happened in previous questions, the proportion of the post placement longitudinal group naming teachers as academic significant others showed significant change at the .05 level. In addition, the "parent" and "local adult" categories changed at the .05 level of significance for both groups. For these categories the null hypothesis of no change in proportion of mention may be rejected in favor of the alternative hypothesis of change in the proportion of mention.

TABLE 5.23. -- Q values of EMR students' responses to the question: "Who are the people you feel are concerned about how well you do in school?"

Response Categories	Longitudinal Group[a] N = 22	Post Placement[b] Longitudinal Group N=45
Parents	13.57*	8.36*
Teachers	7.70	7.94*
Adult Relatives	1.61	6.9
Peer Same Sex	9.66	5.06
Age Level Relatives	5.60	5.67
Other School People	.84	1.00
Local Adults	15.40*	9.22*
Peer Opposite Sex	4.71	2.50

[a] df = 5: reject H_o at $p < .05$ if $Q \geq 11.07$

[b] df = 3: reject H_o at $p < .05$ if $Q \geq 7.82$

*Significant beyond the .05 level

The proportions leading to significant Q's are entered in Table 5.24. Note that the overall trend in all instances is positive. This occurred even though the three -- parents, teachers, and local adults -- with only one exception retained their ranks over all test periods.

TABLE 5.24. -- Proportion of first year of EMR students naming at least one person in each significantly different category

	Longitudinal Group		Post Placement Longitudinal Group		
	Parents	Local Adults	Parents	Teachers	Local Adults
May	.62	.00			
June	.77	.00			
Sept.	.81	.00	.71	.58	.02
Dec.	.81	.00	.73	.49	.00
March	.85	.04	.82	.60	.04
June	.77	.09	.87	.69	.13

A summary of the specific findings follow. For this group:

(1) The General Self Concept of Ability of students labeled educable mentally retarded and placed in special classes varied significantly from the June prior to their special class placement through their first year in the class. While the linear trend of the means proved significant, the quadratic comparison demonstrated significant predictability beyond the linear comparison. Higher order components did not prove to be relevant. Contrary to the expected direction of the trend, mean GSCA scores rose from June through March. Then between March and June a slight dip occurred.

(2) Neither academic aspirations nor academic expectations of first-year EMR students demonstrated a significant descending linear trend. They fell from June through December and then rose between December and the following June.

(3) First-year EMR students did not show significant change in the proportion of positive replies to the question, "How do you like this class?"

(4) First-year EMR students did not demonstrate significant change in the proportion naming the special class in reply to the question, "Would you rather be in this class or the one you were in last year?"

(5) With the exception of same sex peers who were mentioned less than expected, the significant others named by first-year 13-15 year old EMR students did not differ from the significant others named by a regular class population.

(6) The academic significant others names by first-year 13-15 year old EMR students did not differ from the academic significant others of a regular class student population.

(7) The proportion of EMR students who named teachers as academic significant others increased significantly during their first year in the special class.

(8) Little variation in patterns of GSCA means was noted between either high and low SES groups or male and female groups. Some variation was noted between the young and old groups with the young group's GSCA means rising rapidly at placement and remaining higher than older EMR students whose GSCA level rose more gradually to a lower level. Vivid differences were noted between

the trends of a rural and an urban community. The urban group's mean jumped at placement and remained at a high level while the rural group's mean rose less than one standard error and remained at about the smae level for the remainder of the year. The general trends of the high, medium, and low GSCA groups varied considerably, but differences between groups were about the same at the end of the year as they were at the beginning. Overall, every group's mean GSCA score rose at placement: the September scores varied from their pre-placement score from the rural group's less than one standard error to the medium GSCA group's more than 12 standard errors. Most June scores were higher than their prior September score. At the end of the year all but the high GSCA group and the rural group had higher scores than in September. But with the exception of the low GSCA group, all variation was within one standard error of the mean.

(9) The ranked categories of persons named as significant others by EMR students demonstrated high overall agreement over the course of their first year in special classes. And with the exception of the category "teachers" whose proportion of mention generally increased over the year, no significant changes in the proportion of students naming the various categories were noted.

(10) High overall agreement among the ranked categories of academic significant others named by EMR students during their first year in the special class was noted. But three categories - parents, teachers, and local adults - revealed significant changes in the proportions of mention over time. For all three, the overall trend was positive.

Discussion of Findings

Contrary to most self-concept research, in the first hypothesis, the quadratic shape of the GSCA means was studies as a consequence not as an antecedent. Our interest lay not in how different levels of GSCA affected or were associated with various kinds of behavior but in testing a model of change in GSCA hypothesized to occur as a result of pupils being labeled EMR and placed in a special class.

In brief, the quadratic model was based upon the theory that the EMR's GSCA would decline upon being labeled and placed in a special class because he would define himself as a failure. It would then rise from a low point because he would undergo a redefinition of self along positive lines. Instead, although the quadratic hypothesis was upheld, the EMR student's GSCA rose upon placement in a special class and continued upward through March. Between March and June a drop occurred.

This, of course, is almost the exact reverse of the proposed model. When attempting to understand the data within the broader theoretical orientation of this study, two possibilities seem likely. The first explanation deals with the instrument used to assess GSCA. (See Appendix A). Since the scores derived from the Brookover scale depend upon the individual comparing himself to particular reference groups, change in reference groups could conceivably result in changed GSCA. Thus, when a student is labeled EMR and placed in a special class, his definition of self may develop from the perspective of the special class rather than of the larger school society. And since his chance of being successful in the special class is greater than in the regular grade, his GSCA may rise accordingly. Two items which specify comparison with "those in your class," and with your "high school graduating class" would seem likely to force the EMR student to judge his school performance from the perspective of the special class rather than from the perspective of the larger school community. And the answers to two other questions asking the student to assess his school work and his school capabilities may reflect an enhanced definition of self as a student if the special class perspective is used to derive view of self.

The proposed model based on the EMR defining himself from the perspective of the regular class did not fit these data; a model based on the EMR defining himself within the limited framework of the special class does. Theoretically, this means any comparison of GSCA scores must be based on comparable referent groups to be meaningful. Thus, comparing EMR GSCA scores to regular class GSCA scores would be a questionable practice if, indeed, they arise from different referent perspectives. Similarly, the association of GSCA with school achievement should be studied only within particular referent boundaries. And its predictive or explanatory power would be determined to a large extent by its referent group antecedents.

Another possibility is related to the time-ordered nature of this study. Implicit in the proposed model is the notion that since official definition as EMR and subsequent placement in a special class is proof of failure as a student, immediate redefinition of self and acceptance of the mentally retarded role is called for. If GSCA is used as an index, such redefinition did not occur in this study. What may have happened is that like the state hospital for the mentally retarded,[1] the special class provides a number of opportunities for aggrandizement of self. These might include:

(1) An opportunity to compare intellectual ability with others who are inferior

(2) Better peer relations within the special class which may reinforce a non-retarded conception of self

(3) Sympathetic attention of adults which may reassure the individual that he is not "stupid"

(4) Greater academic success through altered and generally lower classroom expectations.

The special class may be an environment where some EMR students can successfully sustain or even enhance a non-retarded definition of self.

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[1] Edgerton and Sabagh, op. cit. This explanation draws heavily on their discussion.

If this is true, it may be that the dip in scores noted between March and June, if the scores continued downward, indicates that at least some students, in spite of opportunities for self aggrandizement, had come to regard themselves as retarded. This definition, instead of occurring immediately as in the a priori model, may take place only after a considerable period of interacting with others who act toward the EMR as though they were retarded.

Actually, this model supplements the prior explanation in which the necessity for considering change in referent perspectives was emphasized. As long as the individual is able to sustain a positive view of self in comparison to other members of the special class, he can retain a concept of self as non-retarded and, perhaps, even enhance his definition of self as a student. But, if through interaction with others who define him as retarded in comparison with the larger community the EMR student's generalized perspective became that of the non-retarded population, he would then tend to accept a definiton of self as retarded and his concept of self as a student, as measured by the GSCA scale, would fall.

This approach also explains the "unrealistically" high self concepts attributed to the EMR. If their referent group is a non-retarded population, the unrealistic label may hold. But if the EMR's referent group is other retarded students so that his comparisons are with a retarded population, "unrealistic" self reports may be highly realistic.

When Hypothesis IV was tested, a slight but not significant increase in the proportion of students saying they liked the special class was noted. Actually, the initial proportion of positive replies was so high that significance resulting from positive movement was impossible. This occurred even though a considerable proportion of the EMR students were aware that others attached unfavorable labels to the special class. But care should be taken in interpreting such findings because 38 per cent of the same students at the final testing said they would choose another class if it were up to them. Methodological factors, i.e., students may have said what they thought the interviewer wanted to hear, could have inflated the positive proportions.

Hypothesis V proved to be similar to Hypothesis IV in that a slight but non-significant increase in the proportion of EMR students preferring the special class was noted. Overall, teachers and subject matter were the most frequently mentioned reasons for choosing the special class.

The importance of teachers was also noted in Hypothesis VIII where a significant positive trend in the proportion of EMR students naming teachers as academic significant others occurred over the course of the study. Even though the hypothesized increase in mention was based on the teacher's part in the redefinition model, it should be emphasized that during the study the majority of positive comments about teachers dealt with the academic help she gave the student and with the time she had to help with studies. Apparently, an important component of the EMR's perception of their teacher is based on how well they think that teacher is helping them learn subject matter and academic skills.

Since the EMR child's overall social experiences are generally like those of his non-retarded peers, since he shares with them common experiences and, as a result, generally comparable value systems, it was hypothesized that the significant others and academic significant others named by EMR students would not differ from those named by a non-retarded population. With the exception of same sex peers who were named less than expected as significant others, this hypothesis was upheld. Why the specific difference existed is not understood; perhaps it is only a quirk of these data.

The trend comparisons are particularly difficult to interpret because they are based on single criterion comparisons when, in fact, many influences may be confounding the results. As a first step, however, the comparisons point to certain variables which may bear further investigation. The close correspondence between the trends of the high and low SES groups are in accord with previous findings[1] regarding the low relationship between GSCA and SES. The similarity of the male and female trends also agrees with previous findings[2] of no consistent sex differences between GSCA and achievement. As discussed previously, the dissimilarity between the GSCA trends of younger and older EMR students suggests varying conceptions of the special class. In line with the self-aggrandizement model, a larger proportion of older students may be more aware of the assumed derogated position of the special class and thereby find it more difficult to sustain a conception of self as non-retarded. Similarly, and particularly interesting in light of the social system perspective of deviance, the marked difference between the rural and urban trends may result from varying definitions of retardation, varying behavioral expectations, or different conceptions of the special class.

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[1] Supra., p. 33.

[2] Supra., p. 33.

When investigating whether any change in identified significant others was associated with special class placement, significant change in the mention of teachers was noted for the group. In line with the previous discussion, more teachers were mentioned at the end of the year than at the beginning.

While overall agreement was noted among the ranked mention of various categories of academic significant others, changes in the proportion of parents, teachers, and local adults were found. In each category the proportion of mention generally rose over time indicating, perhaps, that these adults were increasingly concerned with the EMR's school related behavior.

Limitations of the Study

Before progressing further, it will be helpful to point out some of the limitations of this study. The limitations imposed by the absence of random selection of subjects and random placement in treatments has been discussed previously; as a result, again, our findings are not meant as general statements. It would just be repetitious to keep saying "for the group under study."

In spite of extensive effort, several of the interview drawbacks discussed previously may affect at least certain of the research questions. Particularly harmful to the questions designed to investigate the EMR student's affective orientation to the class was the restriction against intensive probing.

Although the limited instrument study undertaken as part of this research resulted in positive findings, it was felt the GSCA scale could be made more appropriate for use with EMR students without damaging its positive characteristics. Particularly helpful would be adapting it for use with small groups.

A word should be said about the size of the N. It would have been better if it had been larger so that more confidence could be placed in the study's findings. Unfortunately, as occurs with many studies which extend over a considerable period of time, a portion of subjects were lost. In some instances, particularly with those subjects who were not placed in special classes, a biasing effect may have been introduced.

A limitation this study shares with other time-ordered models is the arbitrary nature of both the time interval between measures and the number of observations constituting the series. In the case at hand, the model may very well have been appropriate for a short period following first news of being selected for special class placement. Or the hypothesized trend may take place only over a longer period of placement, and the observed upswing in scores may be but a brief cycle in an overall negative trend. In either event, neither the number of observations used in this research nor the length of time between observations would provide an appropriate vehicle for measuring the proposed model.

A limitation of this design is its weakness in accounting for historical effects. In this regard, it might be argued that GSCA would always rise in September since students would not be subject to school related frustrations or disappointments over the summer vacation. It might then rise for awhile but decline toward the end of the year as the school's demands were experienced. If this argument were true, for these students each September mean score should be higher than the preceding June score. And since an overall increase in scores from June to June was observed in this study, succeeding September mean scores should be higher over the years. The ascending trend, however, would not agree with Brookover's finding of no change in GSCA levels of regular grade students from the seventh through the tenth grade.[1] Therefore, assuming that these subjects' GSCA trend would not be expected to differ from Brookover's trend. it seems reasonable that the graphed trends represent real rather than historical effects. And other historical artifacts like administrative arrangements, changes in the weather, or unique intra seeeion events are not believed to have systematically influenced these data.

A final word concerning the absence of a control group: while this design is not without controls[2], it would have been much more confortable to talk about the findings if such a group had been possible. For example, while it is unlikely that a testing effect or a regression effect occurred at the September test rather than at the previous June test, the rise in GSCA scores observed in September would be easier to interpret had they been able to be contrasted with a classic control group.

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[1] Brookover, _et al_., _op. cit_., p. 200.

[2] _Supra_, pp. 59-63.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Summary

As a pilot effort, the purpose of this study was to investigate the effect of special class placement on selected socially determined intervening variables which may affect the academic performance of EMR students. Specifically, the study focused upon three related problems:

1) What happens to the self-concept-of-ability, academic aspirations, and academic expectations of students labeled EMR and placed in a special class?
2) Who are the significant others and academic significant others of special class EMR students?
    a) Are there any changes in significant others and academic significant others associated with being labeled EMR and placed in a special class?
3) What changes in attitude toward the special class are associated with being in the class for approximately one year?

Answers to these problems were sought by testing the following theoretically derived hypotheses:

Hypothesis I. The General-Self-Concept-of-Ability (GSCA) of EMR students placed in special classes will be characterized by a quadratic trend over time.

Hypothesis II. The academic aspirations (AA) of EMR students placed in a special class will be characterized by a descending linear trend over time.

Hypothesis III. The academic expectations (AE) of EMR students placed in special classes will be characterized by a descending linear trend over time.

Hypothesis IV. There will be a change over time in the percentage of positive replies by first year EMR students to the question, "How do you like this class?".

Hypothesis V. There will be a change over time in the percentage of first year EMR students naming the special class in reply to the question, "Would you rather be in this class or the one you were in last year?".

Hypothesis VI. Those named as significant others by EMR students do not differ from those named by a normal population of school children.

Hypothesis VII. Those named as academic significant others by EMR students do not differ from those named by a normal population of school children.

Hypothesis VIII. As they pass through their first year in the special class, an increasing proportion of EMR students will name teachers as academic significant others.

In addition, three general questions were investigated:

Question I. Are any differences in reaction to special class placement reflected by varying changes in the GSCA pattern if EMR students are compared according to each of the following: age at placement, sex, socio-economic status, and school system?

Question II. Are there any changes in the identified significant others associated with special class placement?

Question III. Are there any changes in the identified academic significant others associated with special class placement?

The subjects for this study were 42 male and 20 female students from six cooperating school districts who were initially placed in special EMR classes during the 1965-66 school year. The criteria of retardation, selection procedures, and placement decision were left entirely to the various districts. The mean age of the group was 11.63 years.

In a time series design, six observations were made on the same subjects from a time prior to their knowledge of selection for special class through their first year in the class. The research instruments used in the study were developed by Wilbur Brookover and his associates to test his social-psychological theory of learning. They are: general self concept of ability scale, academic aspirations scale, academic expectations scale, significant others test, and academic significant others test. In addition, a class evaluation questionnaire was administered. The resulting data were analyzed by using (1) a test for trend involving repeated measures on the same subjects; (2) various nonparametric techniques; and (3) graphic comparisons.

Specific findings were:

1) The quadratic comparison demonstrated significant predictability beyond the linear component for describing the significant difference in GSCA scores of first year EMR students. But, instead of the anticipated fall in GSCA followed by a rise in scores, the quadratic trend rose through March and then fell slightly.
2) First year EMR students did not demonstrate a significant descending linear trend in academic aspirations.

3) First year EMR students did not demonstrate a significant descending linear trend in academic expectations.

4) First year EMR students did not show significant change in the proportion of positive replies to the question, "How do you like this class?"

5) No significant change was noted in the proportion of first year EMR students naming the special class in reply to the question, "Would you rather be in this class or the one you were in last year?"

6) With the exception of same sex peers who were named less than expected, the significant others of 13-15 year old EMR students did not differ from those named by a regular class population.

7) The academic significant others named by 13-15 year old EMR students did not differ from the academic significant others named by a regular class population.

8) The proportion of EMR students who named teachers as academic significant others increased significantly during their first year in the special class.

9) Little variation in the trends of GSCA means occurred between either high and low SES groups or male and female groups. But pronounced variation occurred between older and younger EMR students, rural and urban groups, and groups constructed on the basis of high, medium, and low initial GSCA scores.

10) With the exception of teachers who increased in mention, no significant change occurred over the course of the study in

significant others named by first year EMR students.

11) With the exception of teachers, parents, and local adults who significantly increased in the proportion of mention, high overall agreement was noted in the academic significant others named by EMR students during their first year in class.

Conclusions

On the basis of the above summarized findings which resulted from testing the eight null hypotheses and three questions found in Chapter V the following conclusions are made. Generalization beyond the population under study is not intended.

1) GSCA scores of EMR students exhibit a quadratic trend over their first year in the special class. These data, however, do not support the a priori redefinition model wherein GSCA scores fell at placement and then rose from a low point.

2) At $\alpha = .05$ first year EMR students do not exhibit a downward linear trend in academic aspirations.

3) At $\alpha = .05$ first year EMR students do not exhibit a downward linear trend in academic expectations.

4) At $\alpha = .05$, first year EMR students did not change their affective orientation to the special class. A high proportion of EMR students (from 89 percent to 100 percent) reported a positive orientation to the special class over the year.

5) At $\alpha = .05$ a change did not occur over the course of this study in the proportion of first year EMR students choosing the special class when asked, "Would you rather be in this

class or the one you were in last year?"

6) A high degree of correspondence exists between the significant others named by 13-15 year old EMR students and the significant others named by regular class students.

7) A high degree of correspondence exists between the academic significant others named by 13-15 year old EMR students and the academic significant others named by regular class students.

8) Teachers become an academic significant other to an increasing proportion of EMR students during their first year in the special class.

9) As seen in variations between the trends of GSCA scores over the first year in a special class, different reactions to special class placement occur according to age at placement, school system and initial GSCA level. Little variation occurs according to SES or sex.

10) Little change in identified significant others is associated with special class placement.

11) Although little change in overall ranked importance of academic significant others is associated with special class placement, an increasing proportion of EMR students name teachers, parents, and local adults as academic significant others over the course of their first year in the special class.

Implications

While a good deal of overlap is evident, for convenience this discussion has been broken into three sections: implications for research, implication for theory, and implication for education.

Implications for Research

The unexpected jump in GSCA resulting from being labeled EMR and placed in a special class demands explanation. Research is needed to test the changed referent perspective model and the self aggrandizement model. Furthermore, extended research is needed to test whether the upswing was merely a brief cycle in an otherwise negative trend.

If the EMR's GSCA does indeed rise upon placement, does academic achievement rise likewise as would be expected from Brookover's work with regular grade students? Research with EMR students indicates special class placement does not result in enhanced academic performance. Why doesn't it, in light of enhanced GSCA? The contradiction emphasizes the possible contribution of studying GSCA as an antecedent as well as a consequence. If GSCA is shown to be associated with EMR academic achievement, steps can be taken to examine various ways of manipulating it to improve academic accomplishment. Especially, in light of the similarity between EMR significant others and academic significant others and regular class significant others and academic significant others, it would be worthwhile to replicate Brookover's experiment wherein GSCA and, thereby, academic achievement was manipulated by working with significant others.

Furthermore, assuming significant others are antecedents of GSCA, changes in their actions and attitudes toward the EMR student as a student should be studied as sources for changes in GSCA trends and academic achievement. And the perceptions of others' actions by the EMR should be studied to specify more exactly their relative importance as sources of the EMR's self-definition as a student.

Prior to conducting further studies of the nature suggested above it would be most helpful to revise the existing scale for use with small groups of EMR students. Extensive validity and reliability studies should then be conducted similar to those performed when adapting the GSCA scale for use with blind and deaf students.[1] Particular pains should be taken to insure comparability with the existing scale.

Also, an extensive program of research designed to make explicit the factors affecting interview research with EMR students should be undertaken. It is felt that interview techniques have much to offer those interested in the EMR, but much more needs to be known in order to design and conduct research which takes full advantage of the technique.

Implications for Theory

This research, by studying the consequences of special class placement on certain socially mediated social psychological constructs like GSCA, academic aspiration, and academic expectations, emphasizes the social consequences of being labeled EMR. For specialists in retardation studies it reinforces the position of Dexter[2] and Mercer[3] who insist on considering retardation within the social framework in which one is labeled retarded. In particular, findings regarding the

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[1] Lee M. Joiner, "The Reliability and Construct Validity of Self-Concept of Academic Ability-Form D for Hearing Impaired Students," Unpublished Ph.D. dissertation, Michigan State University, 1966. Edsel L. Erickson, "Scales and Procedures for Assessing Social Psychological Characteristics of Visually Impaired and Hearing Impaired Students," to be reported in 1967.

[2] Supra, p. 27.

[3] Supra, pp. 28-30.

GSCA patterns associated with special class placement suggest the need for greater insights into peculiar definitions of retardation, expectations concerning EMR school behavior, and conceptions of the special class.

For those working particularly with the GSCA scale, this research suggests the need for a more exact description of the referent perspective from which self statements are made. The study also raises a question as to whether comparisons can be made between GSCA levels having greatly different referent antecedents. Similarly, it underlines the possibility that the GSCA's predictive and explanatory power may be meaningful only within carefully delineated referent parameters. For example, "unrealistically high" EMR self statements may be quite realistic from an EMR referent perspective. Also, GSCA's function as an intervening variable affecting academic achievement may possibly be understood only within EMR referent parameters and not in comparison with regular grade self statements.

Implications for Education

While this research, by virtue of its pilot nature, is far from definitive, hopefully, it draws attention to the larger social context within which retardation occurs. Thus, instead of looking for the antecedents of learning within the retarded individual, attention is paid to the influence of others as they convey definitions and expectations to the retarded through interacting with them. Furthermore, how the retarded perceive such definitions and how they act upon their perceptions become points of concern. Even the possibility of enhancing academic outcomes for EMR students by modifying interaction between them and others is considered.

On a more specific level, this research has made explicit the increasing importance of teachers to EMR students. Furthermore, it indicates that the teacher's ability to teach subject matter and academic skills is the most frequently mentioned item of judgment made by the EMR students. Thus, teachers are not only important to EMR students, but they are important in relationship to their ability to teach--which also reflects on the EMR student's desire to learn the subject matter and skills typically taught in school.

Also, for a long time, educators have known that being labeled EMR in one place is not the same thing as being labeled EMR in another place--that a child might be an EMR in one place but not in another. They have also known that what the EMR student is expected to do varies from place to place and from time to time. And probably what it means to be in a special class depends to a large extent on the definitions and attitudes which exist in particular schools. The vivid differences between GSCA patterns of the older and younger students and of the rural and urban areas may exemplify such different attitudes, definitions, and expectations. Yet we know little of the specifics. What is needed is intensive study of some different kinds of schools and communities--study aimed at making explicit: how does it all begin; what is the machinery of labeling and how does it work; who makes the decisions; what are the criteria; what definitions are operating; what is the function of teachers, parents, friends, and others; how are the retarded expected to behave; and how are others expected to behave toward the retarded. Maybe then we would have a better idea of what an EMR is, how he got that way, and what can best be done for him.

Finally, a valuable source of information is the EMR student himself. They can tell us a lot about what goes on in school, about what it means to be an EMR student, and about what we can do to help them be more successful. We must find better ways of asking them and listening to them.

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APPENDIX A

INSTRUMENTS: PRETEST EXERCISE
GENERAL SELF CONCEPT OF ABILITY SCALE
EDUCATIONAL ASPIRATIONS SCALE
EDUCATIONAL EXPECTATIONS SCALE
ATTITUDE SURVEY
SIGNIFICANT OTHERS QUESTIONNAIRE
ACADEMIC SIGNIFICANT OTHERS QUESTIONNAIRE

PRETEST EXERCISE

Circle the best answer.

How do you rate yourself in height compared with your close friends?

Among the tallest
Above average
Average
Below average
Among the shortest

How do you rate yourself in weight compared with those in your class at school?

Among the heaviest
Above average
Average
Below average
Among the lightest

Where do you think you would rank in your class as a runner?

Among the best
Above average
Average
Below average
Among the poorest

In your opinion, how good a jumper do you think you are?

Excellent
Good
Average
Below average
Much below average

In your opinion, how good a singer do you think you are?

Excellent
Good
Average
Below average
Much below average

Do you think you have the ability to throw a ball as high as the school?

Yes, definitely
Yes, probably,
Not sure either way
Probably not
No
Either way

How likely do you think it is that you will learn to drive a car?

Very likely
Somewhat likely
Not sure either way
Unlikely
Most unlikely
Either way

How likely do you think it is that you will someday ride in an airplane?

Very likely
Somewhat likely
Not sure either way
Unlikely
Most unlikely
Either way

How likely do you think it is that you will someday buy a real airplane?

Very likely
Somewhat likely
Not sure either way
Unlikely
Most unlikely
Either way

How do you rate yourself as a swimmer compared with those in your class at school?

Among the best
Above average
Average
Below average
Among the poorest

Where do you think you would rank in your class in spelling?

Among the best
Above average
Average
Below average
Among the poorest

Brookover's General Self Concept of Ability Scale

How do you rate yourself in school ability compared with your close friends?

The best
Above average
Average
Below average
Poorest

How do you rate yourself in school ability compared with those in your class at school?

The best
Above average
Average
Below average
Poorest

How do you think you would rank in your high school graduating class?

The best
Above average
Average
Below average
Poorest

Do you think you have the ability to complete college?

Yes definitely
Yes, probably
Not sure either way
Probably not
No
[illegible]

Where do you think you would rank in your class in college?

The best
Above average
Average
Below average
Poorest

In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?

Very likely
Somewhat likely
Not sure either way
Unlikely
Most unlikely
[illegible]

Forget for a moment how others grade your work. In your own opinion how good do you think your work is?

Excellent
Good
Average
Below average
Much below average

What kind of grades do you think you are capable of getting?

Mostly A's
Mostly B's
Mostly C's
Mostly D's
Mostly F's

EDUCATIONAL ASPIRATIONS

If you were free to go as far as you wanted to go in school, how far would you like to go?

a. Quit right now.
b. Go to high school for a while.
c. Graduate from high school.
d. Go to secretarial or trade school.
e. Go to college for a while.
f. Graduate from college.
h. Do graduate work beyond college.

EDUCATIONAL EXPECTATIONS

Sometimes what we would like to do isn't the same as what we expect to do. How far in school do you expect you really will go?

a. I think I really will quit school as soon as I can.
b. I think I really will continue in high school for a while.
c. I think I really will graduate from high school.
d. I think I really will go to secretarial or trade school.
e. I think I really will go to college for a while.
f. I think I really will graduate from college.
g. I think I really will do graduate work beyond college.

Attitude Survey

Name____Date____________________

School______________________________Teacher____________________Grade______________

The following questions ask how you feel about this class.
Nobody in the school will be told your answers.

1. How do you like this class?*

2. Would you rather be in this class or the one you were in last year?*
   Why?

* Clearly positive or negative answers are necessary for statistical treatment. The interviewer may have to question further until such answers are given.

SIGNIFICANT OTHERS

There are many people who are important in our lives. Who are the people who you feel are important in YOUR life. Please tell who each person is.

NAMES	WHO IS THIS PERSON?

ACADEMIC SIGNIFICANT OTHERS

There are many people who are concerned about how well young people do in school. Who are the people you feel are concerned about how well you do in school. Please tell who each person is.

NAMES	WHO IS THIS PERSON?

APPENDIX B

MICHIGAN PLACEMENT RECOMMENDATIONS FOR EMR

Michigan Placement Recommendations for EMR

1. Diagnostic

   Educational programs providing for all types of mentally handicapped children must be based on a sound diagnostic study. Each child, to be eligible for specific program placement, must be diagnosed as being educable mentally handicapped or trainable mentally handicapped by an approved school diagnostician.

2. Educational

   (a) Once diagnosed as mentally handicapped, placement in a particular program must be determined by a screening committee within the district of the child's residence. This committee should be composed of the diagnostician, the child's principal and teacher, the special classroom teacher and other appropriate professional or school personnel.

   (b) Rule 1. A pupil shall be considered enrolled as a member of the program under this Act, as determined through adequate diagnostic study, if (a) he is mentally handicapped and potentially socially competent, (b) he is mentally handicapped but prognosis is such that he may appear neither academically educable nor potentially socially competent but who may with training become at least partially self-supporting.

   (Page 240 of the 1956 Annual Supplement to the 1954 Administrative Code)

   (c) Rule 2. Qualifications of persons providing diagnostic services under this Act must be approved by the Superintendent of Public Instruction.

   (d) Rule 3. Qualification of persons providing consultant service under this Act must be approved by the Superintendent of Public Instruction.

APPENDIX C

COOPERATING SCHOOL DISTRICTS

DISTRICT	NAME*
A	BENDLE PUBLIC SCHOOLS
B	DEARBORN PUBLIC SCHOOLS
C	KEARSLEY COMMUNITY SCHOOLS
D	LIVONIA PUBLIC SCHOOLS
E	MONTCALM COUNTY PUBLIC SCHOOLS
F	OWOSSO PUBLIC SCHOOLS**
G	DURAND PUBLIC SCHOOLS**

* ALL DISTRICTS LOCATED IN MICHIGAN

** PART OF THE SHIAWASSEE COUNTY INTERMEDIATE SCHOOL DISTRICT

APPENDIX D

RELEVANT DATA FROM BROOKOVER STUDIES

CROSS-SECTIONAL ANALYSIS[1]

NUMBER AND PERCENTAGE OF SEVENTH, EIGHTH, NINTH AND TENTH GRADE STUDENTS NAMING AT LEAST ONE PERSON FROM EACH OF THE FOLLOWING CATEGORIES OF SIGNIFICANT OTHERS AS BEING "IMPORTANT IN THEIR LIVES"

General Significant Others	7th* N=130		8th* N=1751		9th** N-1769		10th** N=1755	
	No	%	No	%	No	%	No	%
Parents	129	99	1683	96	1681	95	1661	95
Age level relatives	84	65	1205	69	1188	67	947	54
Adult relatives	68	52	784	45	834	47	575	33
Peers, same sex	61	47	828	47	950	54	574	33
Peers, opposite sex	8	6	453	26	517	29	475	27
Local Adults	22	17	332	19	372	21	257	14
Teachers in General	76	58	564	32	555	31	251	14
Other academic persons (including counselors)	11	8	177	10	140	8	90	5
Unclassifiable (e.g. God, dogs, famous people, me)	15	12	572	33	333	19	233	13

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[1] Edsel Erickson and Shailer Thomas, "The Normative Influence of Parents and Friends upon Academic Achievement," A paper presented at meetings of the American Educational Research Association, Chicago, Illinois, (1965), p.7.

CROSS SECTIONAL ANALYSIS[1]

NUMBER AND PERCENTAGE OF SEVENTH, EIGHTH, NINTH AND TENTH GRADE STUDENTS NAMING AT LEAST ONE PERSON FROM EACH OF THE FOLLOWING CATEGORIES OF SIGNIFICANT OTHERS AS BEING CONCERNED ABOUT "HOW WELL YOU DO IN SCHOOL"

Significant Others	7th N=130 No.	%	8th N=1751 No.	%	9th N=1769 No.	%	10th N=1755 No.	%
Parents	128	98	1669	95	1688	95	1660	95
Teachers	109	84	1020	58	883	50	621	35
Adult Relatives	43	33	673	38	838	47	620	35
Other Academic persons (including counselors)	27	21	597	34	506	29	518	30
Age Level Relatives	36	28	392	22	519	29	409	23
Peers, Opposite Sex	1	1	212	12	221	12	248	14
Peers, Same Sex	21	16	187	11	247	14	206	12
Local Adults	5	4	117	7	169	10	153	9
Unclassifiable (e.g. God, dogs, famous people, me)	11	8	573	33	444	25	431	25

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[1] Ibid., p. 9.

APPENDIX E

CASE MATERIAL

As mentioned previously, one of the assumptions underlying this research is that the EMR role is a derogated role both in the public schools and in society at large. In school systems devoted to academic achievement and in a society which values the same, the EMR student is a failure and thereby provides both a definition of the limits of acceptable behavior and an example of what happens to those who do not perform adequately. During the course of this research, students often made remarks concerning experiences they had with others.--either parents, friends, or relatives--which support this assumption. A sample of the remarks is presented here as an example of what might be typical experiences which shape the EMR student's perceptions of the special class. Prior to reading them a few points need to be emphasized.

1) EMR students typically reported derogatory labels as being attached to others or to the group and not to themselves even though they themselves had been called the names.
2) The majority of EMR students, including those who reported derogatory labels and negative experience, preferred the special class over the regular class. Often this was because the work was easier. Several said they liked the easier work but didn't like being called names. Perhaps, for many, being called names is a small price to pay for greater academic comfort and success.
3) Derogations were not reported by subjects from each cooperating school, and older subjects reported more negative experiences than did younger subjects.

In Table E. 1. the various derogatory labels EMR students reported others attached to their class are listed. When asked what the labels meant, some students replied as follows:

TABLE E. 1.--Derogatory labels EMR students report others have called their special class.

Retard Class
Dumb Class
"the class"
"the room"
"Specials"
Fruit Room
Nuts
Reject Class
Retards
Bad
Stupid School
Dumb Room
Stupid Class
O.T.

"retard"--"means like you get hurt and you can't learn to write your name, or comb your hair. Mother says that's what retard means. She says I'm not one."

reject class--"bunch of nuts in it"

retard class--"They're all nuts; I'm not here because I'm nuts, just cause I don't get good grades."

O.T.--"In a way you're stupid; you don't know anything."

Special ed.--"My parents and I thought it was just going to be a class for kids who were slow to catch on, to learn, but they're kids in there that are born that way--I mean, I like the kids and the teacher and all that, but they're kids who are born like that."

retard--"I don't know but it's bad."

Some other comments were:

"If you're down there (special education room--the subject was being interviewed on the second floor while the special education room was on the first floor) your friends don't like you so much; they call you names--go back to special education--my best friend still likes me though. For friendship I like it up here; for work down there."

> "I liked it better last year; kids make me fight here. On the playground--they call me names like pig so I have to fight them. Nobody called me names before."

> "They think its special education room for little kids--just like first or second grades. My friends have been teasing me. They don't know what's going on. Just some boys but they don't know."

The general picture of the special class which emerges from this material is that it is a generally comforting haven for unsuccessful students. But it is punctuated by unpleasant incidents, i.e., fighting and name calling, which the EMR students don't like but apparently accept. Interestingly, many EMR students seem to feel that outsiders do not know what EMR students are like--"there are some nuts but not too many and I'm not one"--and do not understand that they really study school work which is hard, not just "for little kids."

Furthermore, the extent and type of derogations one suffers from being placed in a special class for EMR students may vary greatly by school system, school, or even individual classroom. While this study was not designed to investigate the problem and draw conclusions, a variety of experiences like those noted above indicate that relevant variables might be specified and then, hopefully, manipulated to provide a more congenial social climate for those in EMR classrooms.

Perhaps most important, knowing that many professionals in retardation would think them naive, the interviewers engaged in this research agreed that EMR students, at least a goodly number of those in this sample, are able to supply insights into their personal-social condition and problems which would be helpful to those whose interests like in solving those problems. But you have got to ask them, and then you have to listen to them.